International Labour Office
Geneva

Employment Policy Department

EMPLOYMENT
Working Paper No. 204

2016

Structural transformation to boost youth labour demand in sub-Saharan Africa: The role of agriculture, rural areas and territorial development

Bruno Losch

Employment and Labour Market Policies Branch

International Labour Office
Geneva

Employment Policy Department
EMPLOYMENT Working Paper
No. 204

2016

Structural transformation to boost youth labour demand in sub-Saharan Africa: The role of agriculture, rural areas and territorial development

Bruno Losch

Employment
and Labour
Market Policies
Branch

ILO Cataloguing in Publication Data

Losch, Bruno.

Structural transformation to boost youth labour demand in sub-Saharan Africa: The role of agriculture, rural areas and territorial development / Bruno Losch; International Labour Office, Employment Policy Department, Employment and Labour Market Policies Branch. - Geneva: ILO, 2016.

(Employment working paper ; No. 204, ISSN: 1999-2939 ; 1999-2947 (web pdf))

International Labour Office. Employment Policy Dept.

youth employment / structural adjustment / agriculture / rural area / development policy / rural development / Africa south of the Sahara

13.01.3

Printed in Switzerland

Preface

The primary goal of the ILO is to work with member States towards achieving full and productive employment and decent work for all. This goal is elaborated in the ILO Declaration 2008 on *Social Justice for a Fair Globalization*, [1] which has been widely adopted by the international community. Comprehensive and integrated perspectives on achieving this goal are embedded in the Employment Policy Convention of 1964 (No. 122), the Global Employment Agenda (2003) and – in response to the 2008 global economic crisis – the Global Jobs Pact (2009) and the conclusions of the *Recurrent Discussion Reports on Employment* (2010 and 2014).

The Employment Policy Department (EMPLOYMENT) is engaged in global advocacy and in supporting member States' efforts to place more and better jobs at the centre of economic and social policies and growth and development strategies. Policy research and knowledge generation and dissemination are essential components of the Employment Policy Department's activities. The resulting publications include books, country policy reviews, policy and research briefs and working papers. [2]

The Employment Policy Working Paper series is designed to disseminate the main findings of research on a broad range of topics undertaken by the various branches of the department. The working papers are intended to encourage the exchange of ideas and to stimulate debate. The views expressed within them are the responsibility of the authors and do not necessarily represent those of the ILO.

Azita Berar Awad
Director
Employment Policy Department

[1] See http://www.ilo.org/global/about-the-ilo/mission-and-objectives/WCMS_099766/lang--en/indx.htm
[2] See http://www.ilo.org/employment.

Foreword

In response to the global youth jobs crisis, governments, employers and labour unions identified youth employment as the central topic of the 101st International Labour Conference in 2012. Entitled "The Youth Employment Crisis: A call for action", the resolution reminds the international community that investing in young people is crucial for development.

The ILO has responded to this call by investing greater effort and resources into understanding "what works" in terms of boosting youth employment, including through a focus on the generation of evidence in the *Area of critical importance on jobs and skills for youth* and through its technical cooperation portfolio.

The youth employment challenge in Africa is persistent and unique. It is not solely a challenge of unemployment but an intense effort to provide quality jobs for the many young people who simply cannot afford to be unemployed today and hence engage in unpaid, unsafe, temporary or non-productive jobs. The continent's youth population will continue to grow, demanding a long-term, cohesive and multisectoral strategy to ensure that youth's potential is harnessed in successful transitions into decent jobs.

This paper explores the opportunities that economic diversification offers to foster structural transformation in sub-Saharan Africa while absorbing the growing youth labour force and providing them with the requisite skills. It highlights three interconnected actions needed to achieve this goal: (i) supporting knowledge creation and strategy design; (ii) supporting family farmers and the diversification of rural incomes; and (iii) strengthening rural–urban linkages and promoting territorial policies.

The paper presents a call for governments, social partners, the private sector, civil society and young women and men throughout the continent to invent a new development model based on an inclusive and green development process for sustainable cities and rural areas.

I thank the author, Bruno Losch, for his contribution to this important topic.

Sukti Dasgupta
Chief
Employment and Labour Market Policies
Branch

Acknowledgements

This paper was written by Bruno Losch, co-director of the Centre for the Study of Governance Innovation (GovInn) at the University of Western Cape, South Africa, and lead political economist at CIRAD (Centre de Coopération Internationale en Recherche Agronomique pour le Développement, France), ArtDev research unit. It was prepared in collaboration with Sara Mercandalli (CIRAD – ArtDev, and GovInn at the University of Pretoria, South Africa).

The objective of the paper is to support the work of the International Labour Organization on youth employment in Africa. It benefited from helpful comments and suggestions by reviewers from the ILO Sectoral Activities Department and participants of the event "What works to boost labour demand for youth: The role of structural transformation", held in Livingstone, Zambia, on 21–23 October 2015. The paper benefitted greatly from further input and oversight from Claire Harasty and Susana Puerto Gonzalez from the ILO Employment Policy Department.

Contents

List of Figures

List of Tables

List of Boxes

Executive summary

Within the next 15 years, some 375 million youth will become of working age in sub-Saharan Africa (SSA). These young people have already been born and will all be seeking income-generating activities. The magnitude of this cohort, which equates to the current population of Canada and the United States combined, added to the sizable and growing share of SSA population in global population, suggests that the targets of the 2030 Agenda for Sustainable Development will be elusive unless there is significant and coordinated action to address the youth employment challenge in the region.

By 2050, SSA's population will represent 21 per cent of the global population, while sub-Saharan African youth, aged 15 to 24, will account for 30 per cent of all youth around the globe. Over the next 40 years, the region's population will grow by 1.3 billion people, which represents twice the increase of the corresponding earlier period. This steep population growth will rapidly impact the labour markets. By 2050, SSA's labour force is expected to expand by nearly 800 million individuals, equivalent to 62 per cent of the projected global expansion.

With its growing population and rapidly expanding labour supply, SSA has enormous potential to fuel its development trajectory. The region's demographic dividend is complemented by a large geographical scale, diverse ecosystems, a rich endowment in natural resources and fast-growing domestic markets, which offer significant opportunities in meeting SSA's own needs – not to mention the potential for regional integration and the prospect of greater integration into the global economy.

Such growth and development opportunities, however, hinge on the region's ability to tackle the challenges of its structural transformation. Today, SSA is experiencing an incipient economic diversification, high poverty levels and limited human capital and infrastructure. Due to the substantial weight of primary and especially agricultural activities and to the limited progress in terms of industrialization, SSA must succeed in achieving structural change in order to absorb its booming labour force of young women and men.

Structural transformation challenges are not new. Other regions across the globe offer examples of past transitions; however, the current global and regional conditions make the case of SSA unique. The regional and global economic, institutional, geopolitical and environmental contexts have changed, preventing any replication of historical development pathways. Therefore, the specific solution of the "African equation" for structural change must deal with (i) well-known structural challenges within the context of the new international regime of a liberalized global economy and (ii) the resulting struggle over global resources and the impact of climate change – the region being one of those in which the expected impacts are among the most threatening.

The challenge of youth employment is intricately embedded in the complexity of Africa's transformation. The slow paces of structural change negatively impacts labour market conditions for youth. Consequently, the policy priority today is not to seek "silver bullets", which would directly offer youth access to decent jobs; it is, rather, to seriously consider youth specifics within an overall strategy for inclusive economic and social development. This is why youth employment policy should not consider youth in isolation but recognize the overall context and the varied pull and push factors that affect their labour market outcomes. Youth employment prospects are expected to improve with a dynamic process of change. It is therefore vital to identify the fundamental building blocks of this process.

A debate is currently raging over the best policy option for SSA. Contrasting points of view are being expressed, ranging from raising the potential for manufacturing within the new context of globalization to reiterating the strong leverage effects of agriculture and

pointing to the opportunities offered by the service economy or of investing in green growth. Every sector will have to contribute to Africa's structural change. However, and this is the rationale of this paper, policies will need to focus first on the sectoral and regional distribution of activities and individuals, and pay attention to what people do and where they live.

Family agriculture and household enterprises, both of which are classified as falling within the informal sector, are the backbone of rural and urban economies. They are estimated to account for 62 per cent and 22 per cent of total employment, respectively, and are consequently inescapable vehicles for delivering SSA's structural transformation. The remaining share of employment (16 per cent) falls in the formal economy and is particularly reliant on wage labour – industrial jobs accounting for less than 4 per cent. This employment pattern emphasizes some important facts:

- Family agriculture and household enterprises hold great potential for modernization: due to their predominance, they must receive specific attention, which does not mean ignoring other activities where opportunities exist, but rather enhancing the focus on modernizing these sectors.

- The share of agriculture in employment results from the spatial distribution of the population: SSA remains predominantly rural despite important progress in urbanization, which has shown a tenfold increase since the early 1960s, but with slower growth since the 1990s. The rural population is still growing, resulting in higher density of population in rural areas, and SSA is the only region of the world where the rural population is expected to grow well beyond the middle of the century. Furthermore, it is estimated that the tipping point of 50 per cent urban population should not be reached before around 2040.

- Labour supply in agriculture is plentiful and its absorption is crucial to rural development: the absolute number of workers in agriculture in SSA will grow, rather than shrinking, as is the case in other regions, putting increasing pressure on natural resources and presenting further challenges to the rural economy. Due to structural inertia, the agricultural sector will retain its central role in rural livelihoods and employment over the next decades.

- Public policies must therefore pay attention to agricultural development, considering two major leverage effects. First, increasing farmers' incomes directly supports rural demand, which results in the development of new activities and the diversification of the local economy, contributing to the overall process of structural transformation. Second, increasing agricultural outputs leads to the development of both upstream and downstream activities, the consolidation of value chains and the expansion of agro-industries, which are significant sources of employment and present real opportunities for economic diversification.

These striking facts must guide prioritization and action to address the youth employment challenge in SSA. The major strategic issue is to identify the right national priorities and mechanisms to achieve structural transformation in a context of multiple demands and much-needed investments at the national level and an international arena where competition is fierce and growth opportunities are hindered by shifts in economic power.

Based on the evidence and facts reviewed in this paper, three main priorities, valid for most SSA countries, emerge:

(i) support knowledge creation and strategy design;

(ii) support family farmers and the diversification of rural incomes; and

(iii) strengthen rural–urban linkages and promote territorial policies.

The first priority implies re-engaging with the drafting of development strategies. Silver bullets do not exist; hence, supporting strategy design will tailor the objectives from the start and facilitate the creation of information systems that will, in turn, offer more and better evidence about pathways for effective rural diversification. Evidence is needed to design public policies that effectively address the emerging rural world, the rapid population growth and the effects of these factors on spatial dynamics. Growing demographic densities and gradual improvements in infrastructure have had far-reaching effects on rural areas, characterized by new migratory practices, lifestyles and livelihoods. The current development model in agriculture is challenged by demographic growth and the resulting tensions over natural resources. Engaging in the stocktaking of existing potential in land and water is critical for identifying scenarios and designing adequate strategies. At the same time, even if agriculture remains the backbone of rural SSA economies, rural diversification is the rule and more evidence is needed to understand its underlying mechanisms and capitalize on the opportunities it presents.

Appropriate strategy design and a subsequent successful implementation and ownership rely on effective interaction between the central state, local governments and civil society organizations. The participation of rural dwellers, workers and employers and, in particular, of young people is critical to local buy-in and adoption of new policies and programmes. Youth organizations' contribution to the policy-making process must therefore be supported through affirmative action.

The second priority is to improve farmers' incomes and to develop the rural non-farm economy. This priority implies the identification of appropriate policy options for agricultural development, adopting a holistic approach where the sector is not limited to food security but comprehensively explores economic, social, cultural and ecological aspects – particularly with regard to employment, income-generating activities and natural resource management. With this comprehensive approach, the focus must be on family agriculture, which has in the past shown its capacity for driving economic and social change. Even if large-scale managerial and corporate agriculture can facilitate the connection to downstream activities and the agro-industry and contribute to the response to the growing food demand, it is much more likely to be capital intensive and therefore offer fewer prospects for job creation, and less sustainable in the long run due to its reliance on fossil fuels. Family agriculture, on the other hand, has the potential to create jobs and enhance the living conditions of rural communities with the proviso that some key actions are implemented to improve the income, rights and status of family farmers and family farm workers. These actions include:

- Addressing risk reduction through improved farming systems, a better market environment, secured land rights and adequate provision of public goods and social protection.

- Supporting farmers' organizations, including through capacity development on production and exploitation of economies of scale as well as improved bargaining power and dialogue with other stakeholders.

- Facilitating the progressive development of payments for the adoption of environment-friendly agricultural practices. This could be an option for enhancing farmers' revenues by new rewarding activities, which address issues of changing climate and environmental conditions.

- supporting the development of a legal framework for family farming that considers the rights and status of family farm members, particularly young women and men. Core issues comprise access to minimum revenues and access to production factors – primarily land resources – through the facilitation of the intergenerational transfer of assets.

- Promoting decent work for family and wage workers through the progressive development of labour regulation, including the improvement of working conditions, the enforcement of an agricultural or rural minimum wage, skills acquisition, support to entrepreneurship and social protection.

- Improving rural life through developments in infrastructure, equipment and other services in order to reduce the basic needs gap with cities and contribute to a better perception of rural life.

- Changing the status of agriculture and rural life in politics, the media, schools and society as a whole, which requires the dissemination of positive messages and the enhancement of the rural side of a nation.

Public policies have to deal with the paradox of a pervading disinterest among youth in farming activities and the fact that youth participation is a key element in the development of family agriculture. With reference to the above, the sector has the ability to absorb large cohorts of young people entering the rural labour market if more is done to incentivize young women and men to remain in rural areas. In addition, the development of other activities in the rural sector opens the opportunity space for youth.

The growing domestic market for food is a major avenue for the development of agro-processing and the diversification of the rural economy. These downstream activities offer great potential for the promotion of youth employment. Small and medium-sized enterprises offer significant opportunities for youth with more diversified and attractive jobs, and contribute to the improvement of local value added. Their development is less capital intensive and facilitates the proliferation of units in rural boroughs and small towns. They can also lead to other activities in the production of goods and services, with a multiplier effect on local employment.

The third priority, strengthening rural–urban linkages and promoting territorial development, is central to rural diversification. Strong territorial inequalities in SSA mean that most small towns and medium-sized cities lack the necessary assets to facilitate economic diversification. This explains the low returns on non-farm activities, particularly self-employment and household enterprises, which cannot benefit from a business-friendly environment. Therefore, strengthening the bottom and intermediate levels of the urban networks through adequate provision of public goods can unlock the development of new activities, result in new employment opportunities and, simultaneously, facilitate access to specific goods and services for agriculture. Without ignoring the importance of large cities and their role as an interface with other regions and as an engine for growth and innovation, this focus on small towns and medium-sized cities reflects their core positioning in Africa's structural transformation through the improvement of local conditions.

The adoption of a territorial approach also facilitates the adaptation of public policies to diverse local needs. It addresses issues of functional territories in relation to existing economic and social networks, mobility practices and market dynamics, particularly for food supply. It can also facilitate the promotion of new activities, generating employment opportunities for youth through the identification of specific local resources, from skills to characteristics of food products and cultural heritage. Youth can be a driving force and their voice must be heard since they have a clear understanding of the existing constraints and a real capacity for change. Local governments play a key role in facilitating the dialogue among local stakeholders. As such, it is important to invest in their ability to engage in rural policies and the development of urban–rural linkages, improve their technical capacity and enhance their financial space through better provision of local finances and effective decentralization measures.

African youth are the key to the "African equation" and represent a major opportunity for SSA's structural transformation. Because the replication of past transformation pathways is impossible, African civil societies, governments, entrepreneurs and youth have to invent a

new development model, based on an inclusive and green development process for sustainable cities and rural areas. Achieving this new model will require political leadership, strong stakeholder engagement, and continuous research and evidence building to better understand what works to improve the labour market outcomes of youth.

****
***
*

This paper supports the work of the International Labour Organization (ILO) on youth employment in Africa. It was prepared as a follow-up to the ILO's Call for Action on youth employment adopted at the 2012 International Labour Conference and supported the work of the Office through the Area of Critical Importance on Jobs and Skills for Youth.

The paper focuses on structural transformation and the identification of possible building blocks for boosting youth employment in SSA. The first section details past processes of structural transformation and new challenges of the twenty-first century. The second section addresses the unique structural situation of SSA, its employment challenges and the enduring importance of the rural labour force. The third section reviews the existing policy options for speeding up SSA's structural transformation, the limitations of segmented sector-based policies and the importance of reinvesting in multi-sectoral and place-based development strategies. The fourth section considers the rural economy and the need for renewed public policies adapted to the current realities of the region – notably the fading rural–urban divide. This new context requires a better understanding of the underlying processes of change – in particular, the growing pressure on land and natural resources and the consequences for viable agricultural systems. Section 5 concludes with policy recommendations for an inclusive growth process for youth employment.[1]

[1] Except where otherwise referenced, values in $ correspond to United States dollars. Demographic data are the author's calculations based on the latest United Nations estimates: the World Population Prospects 2015 (WPP 2015), using the medium fertility variant, and the Word Urbanization Prospects 2014 (WUP 2014). See: http://esa.un.org/unpd/wpp/ and http://esa.un.org/unpd/wup/ [22 Mar. 2016].

Section 1. Structural transformation: From historical evidence to new challenges

1.1 The historical pathway of structural transformation and the declining role of agriculture

The process of structural transformation refers to changes in the sectoral and spatial distribution of economic activities and people, illustrated by the evolutionary pathway followed by many countries throughout the world.

A stylized summary of this process and its main determinants shows the gradual transition from an agriculture-based economy to one based initially on industry and then on services, in conjunction with a geographic shift from rural to urban areas. This process was made possible by the shift in energy usage to fossil fuels that started at the end of the eighteenth century. This shift was the cause of profound technological changes and resulted in impressive productivity gains. Advances in agricultural productivity released labour and capital for other economic activities; a process which was accompanied by a progressive spatial restructuring from scattered activities (agriculture) to more concentrated ones (industry), and a migration of labour and people from rural areas to cities. These changes also led to increasing returns with higher incomes and a gradual improvement in welfare, facilitated by democratization.

Therefore, this process of structural transformation is embedded within the demographic transition that corresponds to the progressive and successive reduction of mortality and birth rates resulting from improvements in living conditions, education and medical progress. The difference in pace between the two trends (as the mortality rate decreases faster) explains the population growth and rising demographic rates, which gradually slow down as birth rates reduce. This transition results in a temporary improvement in the ratio between the working and non-working population (named the demographic dividend – see section 2.3), which can support economic growth: at the micro- and macro-levels, the decreasing cost of providing care for dependants allows higher consumption, investment and savings. These changes contribute to improvements in incomes, a rising consumer demand and growing economic diversification.

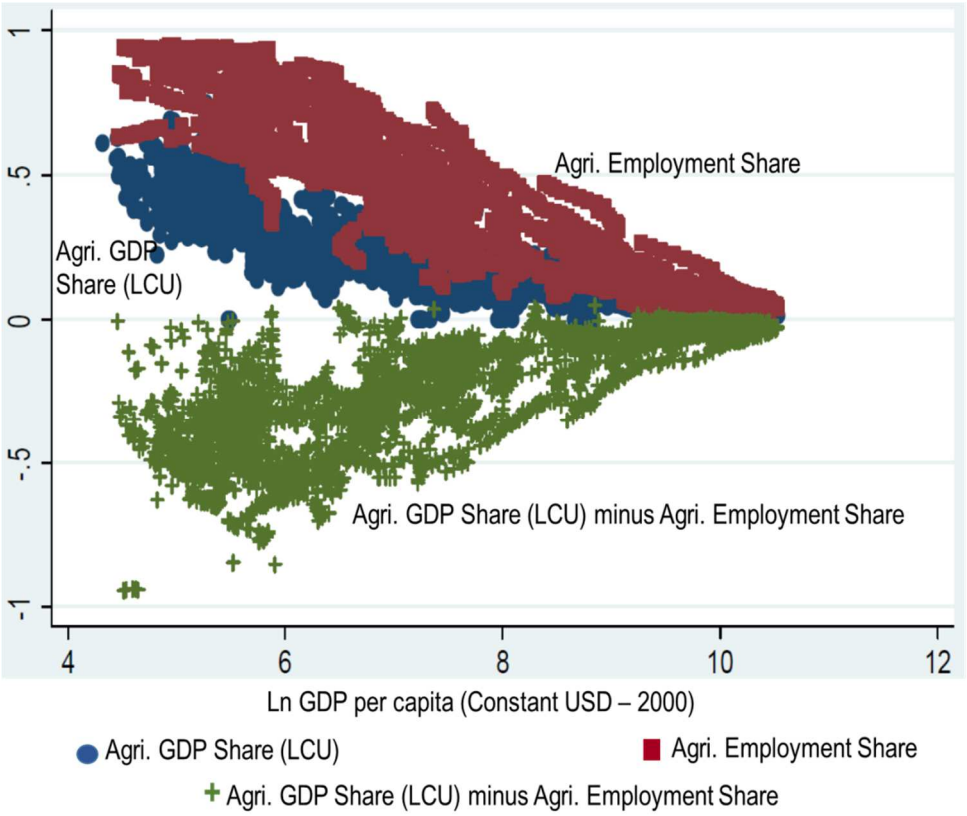
A general result of the process of structural transformation is the declining role of agriculture, a trend that could eventually lead to a "world without agriculture" (Timmer, 2009). This decline in agriculture is highlighted by the drop both in the sector's shares in gross domestic product (GDP) and in the working population, the latter being at a much slower rate (Figure 1). These differences in contribution to national GDPs and employment shares can be explained by productivity gaps between agriculture and other sectors. These gaps are mainly related to the low levels of technology currently applied in the agricultural sector: at the global level, agricultural work remains largely manual and mechanization is limited.[2] As a result, agricultural productivity has been decoupled from other types of activities,[3] resulting in lower agricultural incomes, which are also impacted by changes in relative prices between agricultural and non-agricultural goods. The consequence is that the value added of other sectors rises much faster than in the agricultural sector, which, nevertheless, continues to employ a significant proportion of the working population. Given

[2] In broad terms, two-thirds of farms worldwide use manual tools, one-third use animal traction and a very tiny proportion (3 per cent) use motorized traction (Mazoyer, 2001). There are only 30 million tractors in the world for the agricultural labour force of around 1.3 billion. See also Losch (2015a).

[3] The highly mechanized agricultural sector of OECD countries is, of course, an exception.

the importance of agriculture in rural areas, these processes explain the income gap between towns and the countryside and account for the broad extent of rural poverty.

Figure 1. Decreasing shares of agriculture in the transformation pathway (1965–2000)



Source: Timmer and Akkus, 2008, p. 6.

Note: The chart plots 86 countries from 1965 to 2000 and displays the shares of agriculture in total GDP (blue dots) and total employment depending (red squares) on the level of GDP per capita. The green plus signs represent the gap between the share of Agriculture in GDP and the share of Agriculture in Employment, which is a proxy for the rural–urban income gap. Ln stands for natural logarithm and LCU for local currency unit.

However, although in most of the OECD countries the labour force has almost structurally "exited" agriculture, the world is far from being "without farmers" (Dorin et al., 2013). The sector remains the world's largest employer and, according to data from the Food and Agriculture Organization (FAO), it still accounts for 40 per cent of the economically active population globally[4] – a percentage reflecting the demographic size of Asia and Africa, where the proportion of the workforce in agriculture is around 45 per cent and 60 per cent respectively (in comparison with 15 per cent in Latin America, 5 per cent in Europe and 2 per cent in North America).

1.2 The dissemination and limits of the historical pathway: New challenges and possible divergence

As illustrated in the previous section, the process of structural transformation occurs at different paces but its basic pattern has nevertheless been observed throughout the world. This is the trajectory followed by today's richest and most technologically advanced countries (mainly the OECD countries), where agriculture has moved from a predominant place in their economic aggregates to one that is now marginal. Such a dynamic occurred

[4] ILO estimates are more conservative. According to the *Global Employment Trends* report 2014 (ILO, 2014), the sector accounted for 31.8 per cent of global employment in 2013. However, Cheong et al. (2013) give 39.9 per cent in 2010.

first in Western Europe in the late eighteenth century with the agricultural and industrial revolutions, reached its major "offshoots",[5] Eastern Europe and Japan in the nineteenth and early twentieth centuries and developed next in other regions of the world, albeit more unevenly, mainly after the Second World War. The accelerating pace of recent change – over a few decades instead of nearly two centuries – was due to technological and organizational leaps facilitated by the adoption of innovations from the most economically developed countries.

In spite of the diverse paths, these similarities between world regions are confirmed by statistical evidence (Johnston and Kilby, 1975; Timmer, 2009) and have contributed to establishing the foundation of mainstream thinking on development, based on the idea of a step-by-step process of catching up (Rostow, 1960). In this evolutionary vision, which was formalized after the Second World War (Rist, 2003) and has been brought up to date by the incorporation of the concept of "emergence" (Gabas and Losch, 2008), the less-developed countries follow the most advanced ones in terms of technical, economic and social progress (generally, and prosaically, reduced to per capita GDP – see Fioramonti, 2013).

However, in spite of huge improvements in welfare, several countries and regions are "late" in this transformation process and consequently sometimes referred as "late developers". The least developed countries, as defined by the United Nations (UN), are characterized by low indicators of socio-economic development (in terms of poverty, human resources and economic vulnerability). The group numbers 48, with 34 being in Africa, nine in Asia, four in Oceania, and one in the Caribbean. These countries are lagging behind and their situation calls into question the validity of the historical pathway. Most analysts consider that the issue is about dealing with economic growth difficulties, which implies the need for economic and institutional reform, but the context of the twenty-first century tends to point to new challenges, which may mean that the transitions processes of the past are simply not replicable.

The first challenge is related to growing asymmetries in a global open economy. Globalization offers clear market opportunities: African producers can now participate in global value chains and access far-flung markets. However, globalization also means confronting huge productivity and competitiveness gaps and African producers have to face increasing competition, in both foreign and domestic markets, due to the liberalization process, which has occurred at home over the past 20 years.

This new context differs fundamentally from the economic and political landscape that confronted Europe during its process of structural change. Europe benefited immensely from its military and political hegemony (colonial empires), which gave it access to captive markets with little competition. It also facilitated massive European emigration to so-called "new worlds",[6] helping to absorb its growing workforce and to deal with high poverty levels and even situations of famine (such as in Ireland during the mid-nineteenth century). Asia and Latin America (with many variations) were able to rely on vigorous state-led modernization policies (including import substitution, protection of infant industries and strong support for agriculture), which were developed after – and in response to – the First World War and the financial crisis of 1929 (Giraud, 1996) and continued until the late 1970s that marked the start of economic liberalization (Evans, 1995; Amsden, 2001; Djurfeldt et al., 2005). The international landscape of Africa today shapes differently its policy options (see section 3). It reminds that the "moment in time" when transitions occur is important (Gore, 2003).

The second challenge relates to the physical limits of the current growth regime based on its massive requirements for fossil fuels and other non-renewable natural resources

[5] Specifically Canada and the United States, Australia and New Zealand and certain other countries such as Argentina, South Africa and Uruguay with significant European settlements.

[6] European total migration is imprecise due to limited data and the added complication of emigrant returns, which are difficult to estimate. A commonly agreed Figure is about 60 million between 1850 and 1930 (Hatton and Williamson, 2005).

consumption. This growth regime has resulted in huge negative externalities, foremost of which is the issue of climate change, which is now a common global threat. The reproduction of the past growth regime, which supported the process of structural transformation, is impossible. First, because it would be completely incompatible with risk mitigation, adaptation to climate change and the drastic reduction of pollution (and particularly carbon emissions) urgently required and second, due to the huge and growing gap in wealth between "rich countries" (mainly OECD countries),[7] which fully benefited from extensive natural resources consumption, and the rest of the world. It makes the ideal of "catching-up" unfeasible within this century while populations continue to grow. Above all, the stock of global resources cannot accommodate the same extractive model, so the current situation calls for a new development regime. This challenge is now a central issue for the international community and requires greater international cooperation, as illustrated by the adoption in September 2015 of the 17 new UN Sustainable Development Goals (SDGs) and the Paris COP21[8] agreement in December 2015.

The third challenge results from the contradiction observable in global employment between the steady growth of the world's labour force (a consequence of demographic increase) on the one side, and productivity growth related to technological progress, leading to the attenuation of human labour on the other side. The increasing substitution of labour by capital (due to mechanization, automation and robotics), coupled with international competition on labour costs, puts employment under pressure. These factors affect the development of wage labour, which was a common vehicle for manufacturing and services development and, above all, the foundation of wealth distribution and the rise of mass consumption in richer economies. In this new context, questions regarding the issue of labour absorption are renewed. Technological progress creates new asymmetries and a differentiation between the higher skilled and high-wage workers and the lower skilled and low-wage ones (Autor, 2014; ILO, 2015a). The development of the wage system (or its upholding in OECD countries) is called into question, affecting the reproduction of the social contract (Stiegler, 2015).

[7] Arrighi and Zang (2011) remind us that the per capita GDP of SSA was around 6 per cent of the GDP of OECD countries in 1960 while today it stands at about half of it.
[8] The 2015 United Nations Climate Change Conference.

Section 2. The unique situation of Africa and the continent's employment challenge

2.1 The diversity of the continent

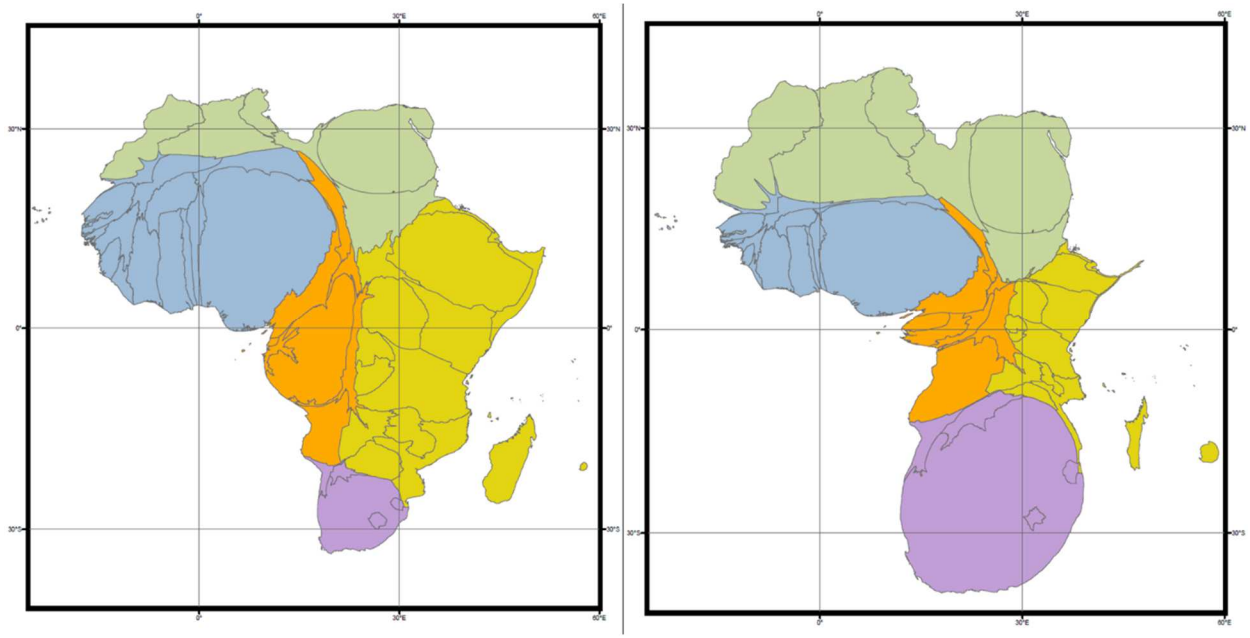
The challenges for Africa are very specific because its structural transformation has been lagging behind in comparison with other regions of the world. However, a strong caveat is necessary: the continent is extremely diverse and its 54 countries display major differences in population, resources, incomes and governance. The continent is also changing rapidly and very little is known about the processes currently under way due to a deteriorating knowledge base.

Differing trajectories of change have led to a distinction being drawn between the southern and northern parts of the continent, on the one hand, and a "between the two" on the other hand.

At either end of the African continent, the five North African states and South Africa have relatively diversified economies, a range of national wealth between $3,000 and $6,000 per capita, a high urbanization level and a fertility rate, which is below three children per woman. By contrast, SSA (excluding South Africa) displays significant country differences (particularly between oil and mining exporters and the others): 32 of the 48 states have a per capita income below $1,500, extractive industries and agriculture play major roles in terms of GDP and total employment, the population is in the majority rural and the fertility rate is high (between four and seven children per woman).

The "African lions" of the McKinsey Global Institute (2010) are deprived of 35 per cent and 20 per cent, respectively, of their GDP when northern Africa and South Africa are subtracted from the total. As illustrated by the anamorphic maps, SSA represents only 45 per cent of the total wealth of the continent while it comprises 75 per cent of its population (see figure 2).

Figure 2. African countries weighted by population (2015) and GDPs (average 2009–2013)



Source: CIRAD Cartography Unit (A. Jolivot), updated from Losch (2013a) and AfDB et al. (2015), based on WPP 2015 and World Development Indicators (WDI).

Note: In these anamorphic maps, country areas in km^2 are replaced by country GDPs and population, distorting the geometry of the map according to the weight of each variable but keeping the shape and relative position of each country. Colours correspond to UN regional groupings for Africa.

The differences between countries can also be highlighted when looking at the pace of diversification from agriculture. Figure 3. Stylized view of structural change in Africa by country profiles (1961–2010)displays four country profiles illustrating the agricultural shares in GDP and the economically active population (EAP):

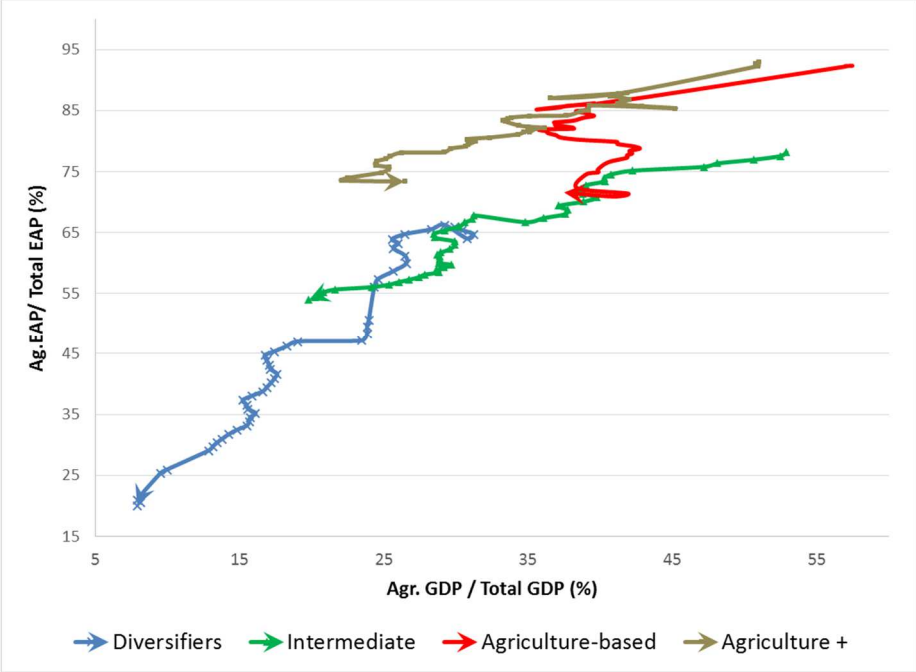
(i) *the "diversifiers"* profile corresponds to countries that experienced the greatest changes with high levels of urbanization and a significant number of workers exiting agriculture; it includes diversified economies with significant industrial development (e.g., Mauritius, South Africa and Tunisia), some of which have maintained a dynamic agricultural export sector (Cameroon, Côte d'Ivoire, Egypt and Morocco);

(ii) *the "agriculture-based"* profile represents countries of East Africa, Madagascar and Mali with large rural populations, where agriculture remains the cornerstone of the economy and where overall change was particularly slow over the period;

(iii) *the "intermediate"* profile corresponds to countries where the share of agriculture is smaller, notably due to higher urbanization rates (Ghana, Senegal and Togo);

(iv) *the "agriculture +"* presents the atypical evolution of countries where the weight of agriculture tends to increase: these are mainly countries that have experienced crises, where the agricultural sector provided a refuge during the widespread and lasting downturn (Burundi, the Democratic Republic of the Congo, Guinea-Bissau, Liberia and Sierra Leone). This profile also includes those countries with a booming agricultural sector, like Burkina Faso, where a "cotton revolution" occurred.

Figure 3. Stylized view of structural change in Africa by country profiles (1961–2010)



Source: Author, based on FAOSTAT (2011) and WDI (2014).

Note: This chart is the result of work prepared by CIRAD for the African Economic Outlook 2015 (AfDB et al., 2015). Country groupings were determined by statistical analysis of 42 countries using regression-based agglomerative hierarchical clustering on time series between 1961 and 2010. Countries eliminated from the analysis were those with too short time series as well as several oil-exporting countries, which had experienced a drastic evolution in GDP shares.

2.2 The delayed structural transformation of SSA

2.2.1 An incipient economic transition

In terms of the major economic aggregates and when compared to other developing regions, SSA's structural transformation has been too weak and too slow. The region has changed little over the past 50 years and remains defined by the weight of its primary sector. Agriculture, mining and fossil fuels account for over 50 per cent of GDP in 17 out of the 48 SSA countries, between 40 per cent and 50 per cent in nine countries, and between 30 per cent and 40 per cent in nine others. The manufacturing sector is extremely limited: only 18 countries have an industrial added value that exceeds 10 per cent of GDP and, of these, only seven reach the threshold of 15 per cent. These results reveal a deep structural inertia, where only services and construction, driven by urban growth, have developed. SSA is a region of urbanization without industrialization, and constitutes a very specific situation in the economic history of the world.

This African exception can be explained by examining the historical conditions of the continent's integration into the global economy (Pomeranz, 2000; Grataloup, 2007), with recent and restrictive colonial rule resulting in young and small states. In addition, only 20 years after gaining their independence, and before they had the opportunity to consolidate their institutions or to implement modernization policies, these new countries were simultaneously projected into the international competition of globalization and subjected to the harsh constraints of structural adjustment.

In comparison, several Asian states, which had the same level of relative wealth as some SSA countries 50 years ago – but a different historical background – grew steadily and rapidly, despite pessimistic predictions – see Myrdal's "Asian drama" (1968). Their growth process was characterized by a sharp decline in agriculture and the simultaneous development of manufacturing. Over the same period, the rate of African growth was much lower and very volatile (Arbache and Page, 2009), which raises the question of the sustainability of the recent growth trend (Devarajan and Fengler, 2013), that has been characterized by the importance of raw materials, construction and services, and the relative weakness of investment (Ali and Dadush, 2010). The recent downturn, observed in 2014–2015, related to decreasing prices of raw materials, highlights this structural fragility.

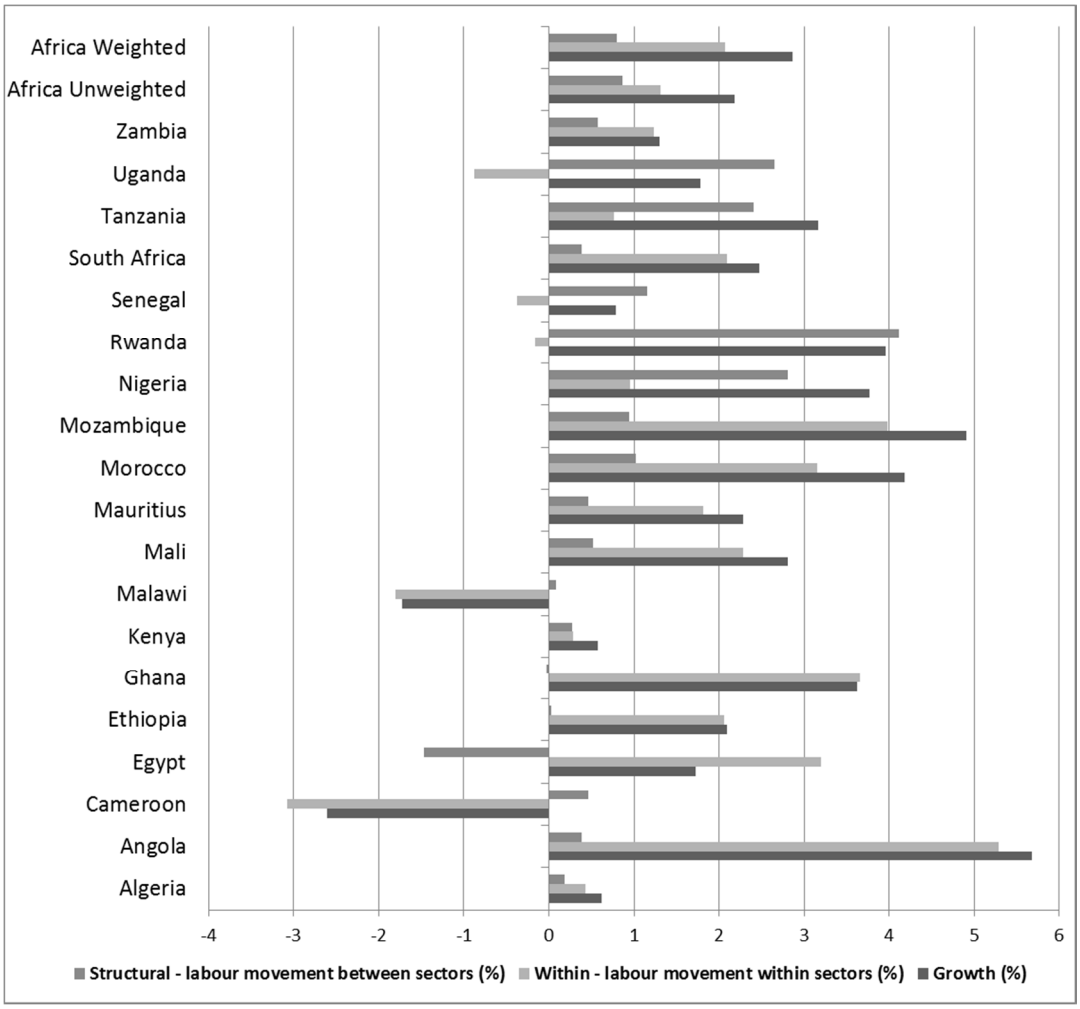
However, while many countries are heavily dependent on international markets and have little diversification, some countries, especially in East Africa (Ethiopia, Rwanda and Uganda), have progressed without the benefits of extractive resources. Reliable data are limited but several countries do show a progressive structural shift (Nigeria, Rwanda, Tanzania and Uganda – see Figure 4) due to the development of more diversified exports with higher value and technological content (McMillan et al., 2014).

Nevertheless, these slight changes in the labour force structure of SSA do not modify, in absolute terms, the enduring importance of agriculture in the EAP. Agriculture still occupies 50–60 per cent of the labour force in the vast majority of countries in SSA (FAOSTAT). This rate rises to 75 per cent or above in certain countries (those in the Sahel and East Africa). It is worth noting that agriculture is also a common activity for urban dwellers (up to 25–30 per cent of the urban EAP), particularly in small towns but also in major cities; and urban and peri-urban agriculture is an inherent part of the urbanization process (Moustier and Fall, 2004; Orsini et al., 2013). The broad definition of agricultural employment,[9] however, does not signify exclusive occupation in agriculture: multiple activities are a characteristic of rural households (Losch et al., 2012 and section 4). Other sectors of employment are mainly services (predominantly trade and transport and, to a lesser extent, government and banking), handicrafts, public works and construction, with the latter

[9] According to the FAO, the economically active population in agriculture corresponds to the number of all employed and unemployed persons engaged in or seeking work in agriculture, hunting, fishing or forestry.

being directly boosted by urban growth. Employment in manufacturing remains extremely low – a few hundred thousand jobs in most countries (and often less).

Figure 4. Structural change in SSA and sectoral transfer of labour (2000–2005)



Source: Author, based on AfDB et al. (2013, p. 116).

When looking at the type of employment, and according to average figures provided by Filmer and Fox (2014), only 16 per cent of the labour force in SSA have formal "wage jobs" (Figure 5). Moreover, only 20 per cent of paid workers are in the industrial sector (mining, manufacturing and construction).[10] The remaining 84 per cent are in the "informal economy",[11] either on family farms[12] (62 per cent) or in household enterprises (self-employment activities or small businesses), which account for 22 per cent. It does not prevent informal wage labour, notably casual low-paid manual labour in agriculture for which information is lacking (Mueller and Chan, 2015 – see section 4.1). One notable feature of this informal economy is its great flexibility, which gives it a strong resilience to hazards – a

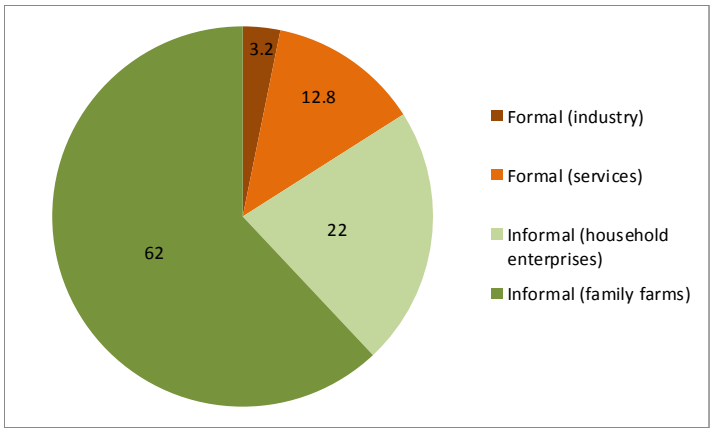
[10] These paid workers in the industrial sector therefore constitute about 3 per cent of total employment. It confirms how tiny the share of manufacturing is in total employment.

[11] According to ILO, the "informal economy (a) refers to all economic activities by workers and economic units that are – in law or in practice – not covered or insufficiently covered by formal arrangements; and (b) does not cover illicit activities (…)" (ILO, 2003). It concretely consists of businesses not declared or registered with the tax authorities, which do not apply accounting rules or economic and social labour standards (e.g. hiring regulations, firing, minimum wage and working conditions). See also Jütting and de Laiglesia (2009), Charmes (2011) and Beaujeu et al. (2011).

[12] Family farming refers to one of the forms of organization of agricultural production in contrast to corporate agriculture and family businesses. The differentiation criteria are labour, capital, management, degree of self-consumption, and legal and land tenure status, and do not include size. Family farming corresponds to holdings characterized by organic links between the family and the production unit and by the mobilization of family labour, excluding permanent employees (Bélières et al., 2014; Sourisseau, 2015).

positive aspect that is counterbalanced by high levels of risk, underemployment (low number of hours worked per worker) and low to very low levels of remuneration.

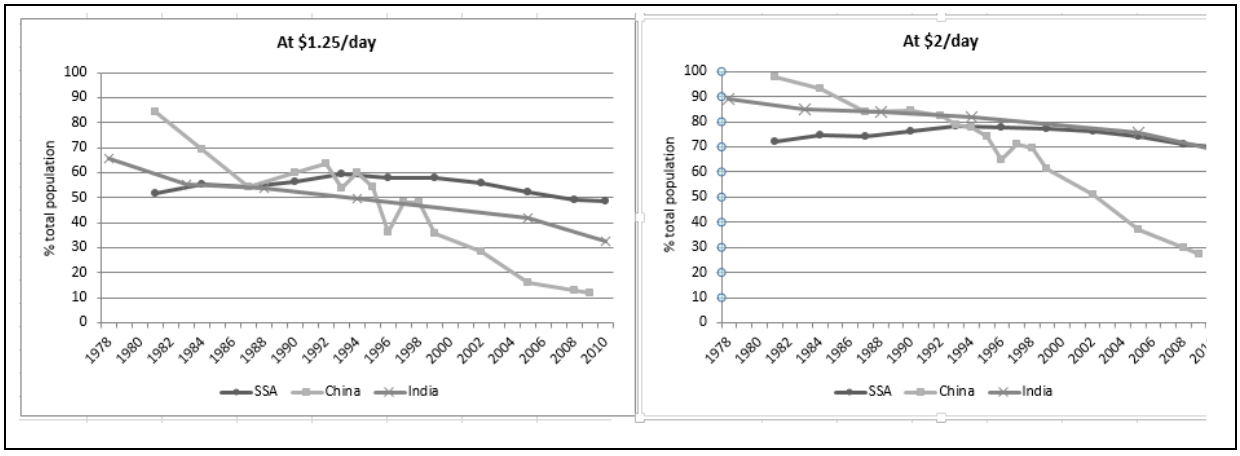
Figure 5. Employment structure in sub-Saharan Africa in the early 2010s



Source: Author, based on Filmer and Fox (2014, p.5).

As a consequence of these low paid jobs, of insufficient or inexistent social protection and low incomes, living standards have been stagnating, resulting in massive, persistent poverty: on average, in SSA, most people (70 per cent) fall below the threshold of $2 purchasing power parity (PPP) per person per day, and 50 per cent of the population are below the $1.25 poverty line – markedly different from the situation in China and also in India where progress has been significant, notably in terms of extreme poverty reduction (Figure 6. Poverty headcount ratio in SSA, China and India (in $ PPP, 1978–2010)). The non-inclusive and volatile growth process of the past two decades, mainly driven by raw materials exports (which do not create many jobs), has had a limited impact on poverty headcounts.

Figure 6. Poverty headcount ratio in SSA, China and India (in $ PPP, 1978–2010)



Source: Author, based on WDI 2015.[13]

[13] The World Bank adopted new international poverty lines in October 2015, using the 2011 PPP rates. The updated figures are $1.90 for the extreme poverty line and $3.10 for the poverty line. Data for SSA were only updated recently in the Word Development Indicators database (WDI). Due to a revision of the PPP calculations, they show an improvement in the poverty headcounts but the new series is shorter and starts in 1990 instead of 1978.

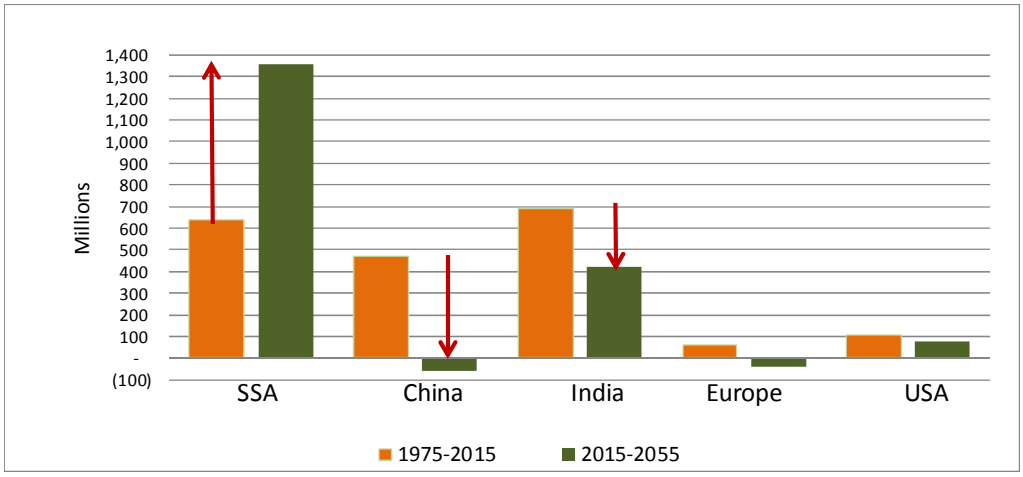
2.2.2 A slow and delayed demographic transition

These slow-transforming African economies are facing a unique demographic situation characterized by unprecedented rates of growth and the enduring importance of their rural populations. SSA is the last region of the world to enter into this demographic transition and the process is far from complete: population growth has been strong over the past four decades (around 2.8 per cent per year) and has lasted longer than originally projected due to persistently high fertility rates in many countries, leading the United Nations to revise their projections upward in 2012 and again in 2015:[14] In 2050, SSA's population is on course to reach a total of 2.1 billion people, with the population continuing to grow until after 2100.

There are, however, marked differences between SSA countries in terms of the various rates of demographic transition (Guengant and May, 2013). If the majority of countries show slow and erratic transitions with a fertility rate remaining at around five children per woman, some others (specifically in landlocked Central and West Africa) are stuck at high levels of fertility rates with six to seven children per woman. On the other hand, in a few countries, such as Côte d'Ivoire, Ghana and those in the southern Africa region, fertility rates currently stand at three to four children per woman.

The burning issue here is not only the continuing population growth but also the massive change in scale. While SSA's population increased by 640 million people between 1975 and 2015 (a similar change to that seen in India), it is set to increase by 1.35 billion over the same time period between 2015 and 2055. It is the only region of the world with such a demographic push: over the same time period, the population of Europe and China will decrease and the population increase in India (which will become the most densely populated country in the world) will be only 30 per cent of SSA's (Figure 7). SSA's population growth will overtake China's and the region will have two and a half times more people than Europe (a reversal of the relative demographic weights of Europe and Africa in less than a century).

Figure 7. Demographic change in selected regions and countries over two 40-year periods



Source: Author, based on WPP 2015.

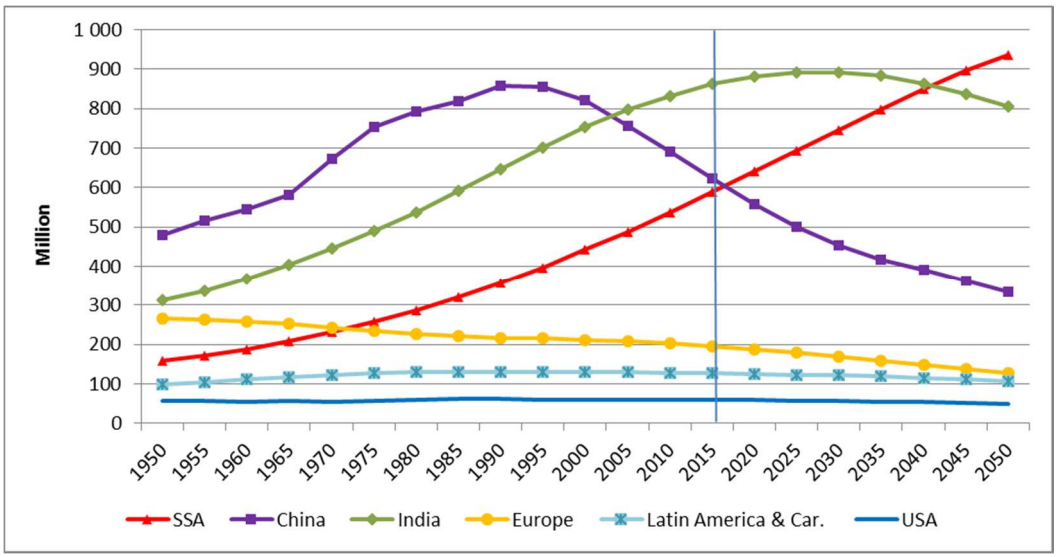
The specific spatial distribution of the population is another characteristic of SSA's structural transformation: while the world reached the tipping point with a slight majority of urban dwellers at the end of the 2000s, the region remains mainly rural, with around 60 per cent of people living in rural areas in 2015 – an exception shared with South Asia (Losch, 2013b). However, urbanization in SSA has grown strongly: the urban population has increased tenfold since the early 1960s. But, after a rapid period of growth between the 1960s and the 1980s (at nearly 5 per cent per year, and even higher in certain countries), the pace slowed down from the 1990s onwards as a consequence of economic crises, structural

[14] By 6 per cent and 2.5 per cent, respectively, representing an additional 110 million and 50 million people.

adjustment and narrowing opportunities due to state withdrawal and limited private investment. The rate of growth is stabilizing at around 3.8–4 per cent today (Magrin, 2013a).

Moreover, SSA's tipping point will not be reached before 2040 and the region is the only one in the world where the rural population will continue to grow well after the middle of the century (Figure 8), while in South Asia it will decrease from the mid-2030s. With 350 million additional rural residents by 2050, SSA's rural population should reach nearly 950 million – an increase of 59 per cent.

Figure 8. Evolution of rural population by major countries and regions (1950–2050)



Source: Author, based on WUP 2014.

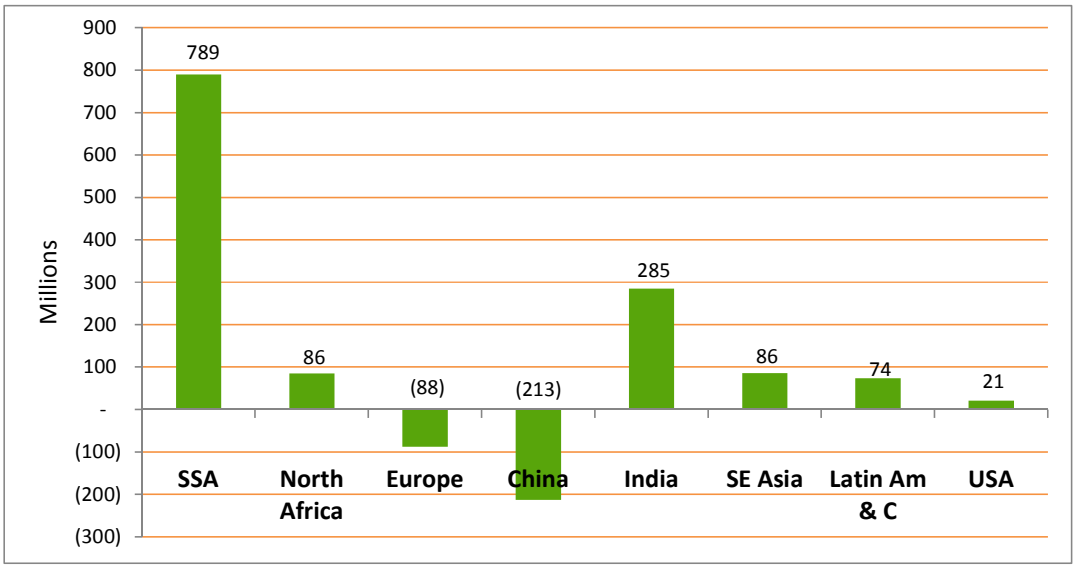
2.3 The dramatic growth of the African labour force and the "African equation"

Because of the ongoing demographic push and the evolving age structure of the population, SSA's labour force[15] will increase dramatically in the coming decades, with an expected surge of nearly 800 million by 2050, and it will continue to grow well after that date – making Africa an exception to the global norm. This increase will represent 62 per cent of the global labour force expansion. Over the same period, the labour force will decrease in China and Europe (Figure 9). Based on the projected repartitioning of the population between urban and rural areas proposed by the *World Urbanization Prospects 2014*, nearly 35 per cent of this labour force surge will be in rural areas, representing 270 million workers.

The change in the age structure will also improve the effective dependency ratio (working age/non-working age people) because of a progressive reduction of the birth rate, which is characteristic of the demographic transition process: the 0–15 age group progressively decreases and the relative number of young dependent people is lower.

[15] The working age population is considered here. It corresponds to the 15–64 age group (the economically active) and is generally used as a proxy for the labour force. It includes both employed (or self-employed) and unemployed people.

Figure 9. Labour force increase by major regions and countries (2015–2050)



Source: Author, based on WPP 2015.

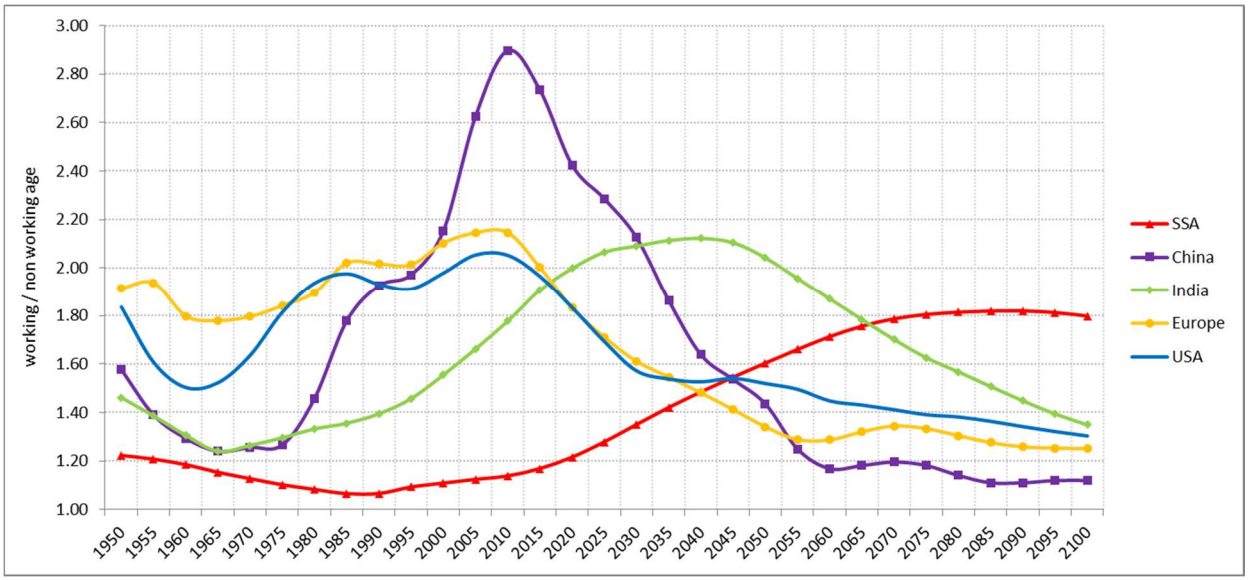
With one inactive person for every economically active person in the 1980s and 1990s, this ratio represented a major economic disadvantage for Africa, which was hit at the same time by the impacts of structural adjustment policies. The burden of dependent people drastically constrained investment and consumption and had an impact on economic growth and poverty levels (Figure 6). Over the same period of time, China had two active people for every one inactive person (and currently has a ratio of 2.5:1), which is a significant difference in terms of productive capacity and potential increase in individual wealth and living standards (Figure 10).

The ongoing improvement of the effective dependency ratio in SSA over the coming decades will be a major advantage in terms of growth and the region will progressively reap its "demographic dividend".[16]

However, the size of SSA's dividend will be smaller than in other regions, particularly East Asia, for two reasons: SSA's convergence with the rest of the world in terms of fertility reduction is lagging (Guengant and May, 2013), and improvements in life expectancy will result in an increase of the over-64 age group. SSA is "a young but ageing continent" (Golaz et al., 2012). Therefore, SSA will never reach the ratio of two active person for every inactive person, and the ratio should reach a ceiling at 1.8:1 in the 2070s.

[16] The demographic dividend constitutes a unique moment in the dynamic of a population, when the number of active and inactive people, respectively, stands at its highest and lowest level. After this window of opportunity (also called the "demographic bonus"), population ageing leads to a progressive decrease in the activity ratio – a process which is currently broadly in effect in China and Europe.

Figure 10. Effective dependency ratio by major countries and regions (1950–2100)



Source: Author, based on WPP, 2015 revision.

Crucially, this improvement in the activity structure of the population will only fulfil its leverage role if it is combined with adequate public policies and a favourable economic and institutional environment (productive investment, improved skills and capacity building, innovation and productivity enhancement). In the absence of this environment, the demographic bonus (many workers) could turn into a "penalty" (many jobless), and result in major social and political tensions.

Therefore, the region will have to deal with a dramatic "job challenge" (Bhorat and Naidoo, 2013) and generate employment to match the upcoming increase in the labour force. This challenge can be more accurately defined by considering the annual cohort of youth entering the working age group, which is a proxy for the young workers "entering the labour market" or who will look for an income-generating activity.[17] There are many differences in cohort size between countries, depending on their total population and its age structure – which reflects their stage in the demographic transition – and Table 1 illustrates the different levels of challenge facing specific countries.[18]

[17] The annual cohort corresponds to one-tenth of the 15–24-year-old age group. This is the flow entering the working age group (15–64), and differs from the change in the group's size, which also takes into account people entering the supposedly non-working 64+ group. The absolute increase in the 15–64 group is less precise because many people continue to work after the age of 64 in countries without a formal labour market or generalized pension system, as is the case in SSA. The 15–24-year-old age group obviously includes youth attending school or students, but it can be assumed that they will start to work or look for a job or an income-generating activity between the ages of 15 and 24, depending on their access to the education system. Taking one-fifth of the 20–24-year-old age group does not change the size of the yearly cohort significantly.

[18] For a medium-sized country such as Senegal, almost 300,000 young people reached working age in 2015. This cohort will reach 467,000 by 2030 (i.e., an accumulated cohort of 5.95 million over the 15-year period); as a point of comparison, there are currently 3.52 million people living in the capital city of Dakar (WUP 2014).

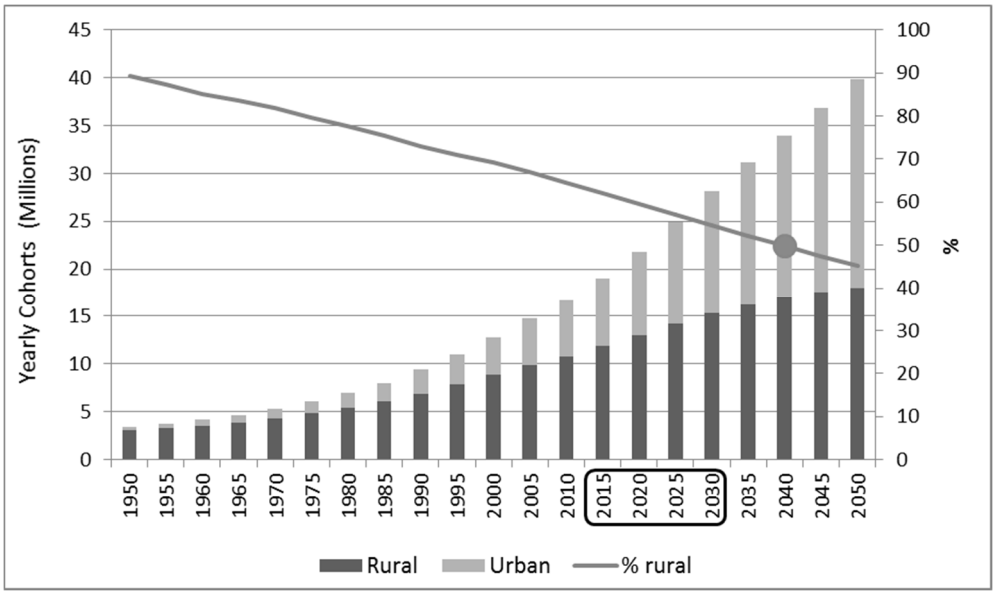
Table 1. Evolution in size of the annual cohort entering the working age group among selected countries and in SSA (2015–2030), in thousands

	Yearly cohort		2015 - 20130	
	2015	2030	Increase	Total
Benin	217	310	1.43	4 240
Ethiopia	2 145	2 746	1.28	39 956
Liberia	87	128	1.47	1 742
Madagascar	498	694	1.39	9 529
Malawi	355	543	1.53	7 081
Mali	338	578	1.71	7 243
Senegal	297	467	1.57	5 957
Sierra Leone	129	178	1.38	2 479
South Africa	1 054	1 061	1.01	16 637
Togo	142	211	1.49	2 813
Uganda	792	1 285	1.62	16 523
Zambia	325	513	1.58	6 646
SSA	19 023	28 124	1.48	375 028

Source: Author, based on WPP 2015.

Seen at the level of the whole of SSA, this equates to an annual cohort of around 19 million in 2015, reaching 28 million and resulting in a total of 375 million by 2030 (Figure 11). This corresponds to the current population of Canada and the United States combined. Moreover, these numbers are not tentative estimates: with regard to this 15-year period, these new "workers" have already been born.[19] Based on the existing distribution of population and trends in migration to cities, 60 per cent (about 220 million) of these workers are likely to be in rural areas.

Figure 11. Evolution of the rural and urban annual cohorts entering the working age group in SSA (1950–2050)



Source: Author, based on WPP 2015 and WUP 2014.

[19] Looking beyond 2030 and based on the United Nation's fertility projections, the annual cohort for SSA should reach 40 million in 2050 and 58 million in 2100 (medium variant) – a size never before attained in any region in the world's history.

Numbers of this magnitude demand an articulation of the "African equation" (Losch, 2015a): with their undiversified economic structure, in which the weight of primary and especially agricultural activities dominate, and where weak industrialization is failing to offer mass employment alternatives, how will SSA economies absorb their booming labour force and, specifically, deal with youth employment? What are the possible and realistic absorption sectors? Where will people settle, and what will be the consequences for regional dynamics and natural resources? (See Box 1.)

Lessons from past transitions are pertinent, but they also help to point out differences: as mentioned above, the "moment in time" matters and replication is not an option because economic, institutional, geopolitical and environmental contexts have changed. European hegemony in the nineteenth and early twentieth centuries, import-substitution policies and state-led development in Latin America and in Asia from the mid-twentieth century onwards, and the high carbon footprint industrialization worldwide, all contributed to past processes of structural transformation. Sub-Saharan Africa's challenge today is to succeed in its process of structural change within the new international regime of a liberalized global economy, while simultaneously managing the new constraints related to struggles over resources and the impact of climate change – the region being one where the expected impacts are among the most significant (Jones and Thornton, 2009; PAI and AFIDEP, 2012; World Bank, 2013a). In addition, it will have to manage these challenges without benefiting from the same economic policy options that were accessible to previous "transformers". New international regulations have changed the rules of the game and limited the room for manoeuvre of "late developers".[20]

[20] Chang (2002) emphasizes the difference in status between countries according to their hegemonic or subordinate position. In particular, he recalls how the richest countries now wish to prevent others from applying the policies that they themselves implemented (especially those of protection and subsidies) and which some continue even today (agricultural subsidies being a well-known example).

Box 1.
How do global figures translate at a regional scale: A focus on two regions in Mali and Madagascar

Although many local case studies exist on SSA, there is an extremely serious lack of information at the regional level, which is related to the long-standing deterioration of the knowledge base and statistical systems within the region. Consequently, there are few regional approaches, which clearly limits policy-makers' abilities to anticipate the region's upcoming requirements.

A recent regional diagnostic and foresight exercise by Agence Française de Développement (AFD) and CIRAD in two regions of Mali and Madagascar (respectively, the Ségou and Vakinankaratra administrative regions) illustrates the nature of the challenges in terms of employment, infrastructure, services, natural resource management and spatial planning (Sourisseau et al., 2016). Table 2 displays the major features of each region, both of which are characterized by the importance of rural population and the central role of agriculture, which sustains the livelihood of around 80 per cent of the population.

Table 2. Some demographic and economic characteristics of Vakinankaratra and Ségou

	Madagascar	Mali
	Vakinankaratra	Ségou
Region size (km^2)	19,250	62,000
Population (*)	1,749,000	2,368,354
Density (hab./km^2) (*)	91	38
Population in 2035	3,138,000	4,221,000
Density (hab./km^2)	163	68
Population growth rate	2.36	2.56
Cumulated yearly cohorts 15–24 (2015–35)	1,000,000	1,285,000
Teachers increase to 2035 (primary school)	14,000	23,000
Agricultural population (*)	1,409,694	1,871,000
AgPop/Total population (%)	81	79
AgPop increase to 2035	783,693	1,473,824
Number of agricultural holdings (*)	276,411	122,000
Average holding size (*) (**)	0.8	11.5
Holdings increase to 2035	153,665	96,102

Source: Sourisseau et al. (2016)

Notes: Figures are estimated and based on population and agriculture censuses (respectively, 2009 and 2005 in Mali, and 1993 and 2005 in Madagascar), United Nations projections (WPP 2015 and WUP 2014) and other local sources. Population projections and growth rates correspond to a fertility rate in 2050 of three in Madagascar and four in Mali (medium scenario).

(*) 2010 for Madagascar and 2012 for Mali (**) Physical acreage in Mali; "economic" acreage in Madagascar includes several cropping seasons enabled by irrigation systems.

The region of Vakinankaratra in the Madagascar central highlands is densely populated (91 inhabitants/km^2), and agriculture is mainly based on rice, fruits, potatoes and dairy production. In spite of a free trade zone in Antsirabe and the proximity to the country's major city and capital Antananarivo, employment in manufacturing has never exceeded 30,000 workers, and job alternatives are scarce, while the annual youth cohorts will increase from 51,000 to 60,000 between 2015 and 2035, with a cumulative total of 1 million at that date. As a consequence, pressure on natural resources will continue to grow, whereas the average holding size has already dwindled to 0.8 ha. Without other employment alternatives or migrations and keeping the same number of people per agricultural holding, the number of holdings is set to increase by around 150,000 over the next 20 years – a difficult evolution in the most populated areas where irrigation is already developed, which calls into question the effective exit options for farming households.

In the Ségou region, located in the Niger River interior delta, pressure on natural resources is less acute and the potential for agricultural development is significant – such as that instigated by the Office du Niger irrigation scheme. Population density is only 38 inhabitants/km^2, but unevenly distributed. However, Mali is less engaged in its demographic transition than Madagascar is, which will result in a strong population increase with nearly 1.3 million youth seeking income-generating activities by 2035 (and annual cohorts growing from 50,000 to 85,000). Moreover, with a fertility rate of 6.35 in 2015, this scenario is very optimistic and the employment challenge may yet prove to be higher. Due to the lack of significant activities outside agriculture and the informal sector, the pressure will also focus on farming activities (mainly rice, millet and sorghum). Holding sizes are more than ten times the acreage in Madagascar, but this gap masks significant differences in farm structures: in Mali, holdings are based on extended families, including several households and counting an average of 15 people, while in Madagascar the number of people constituting a holding is fewer than five.

Section 3. From sectoral priorities to development strategies

Having experienced a fourfold increase in population over the past 50 years, the economies of the region have proven that they are able to absorb a significant demographic push. However, due to the recession of the 1980s and 1990s, coupled with an inadequate and volatile economic growth process over the long run, living standards have been stagnating and widespread poverty persists. With 1.2 million additional people and a 800-million strong increase in the labour force expected by 2050, there has been a change in the magnitude of the challenge. In order to identify the right priorities for policies to address this situation, reinvestment in development strategies is urgently needed.

3.1 The debate about the best policy option for Africa: What to prioritize?

The large majority of sub-Saharan African economies are still defined by the weight of their primary sector (agriculture and mining), the population is still predominantly rural and its activity structure is characterized by the overwhelming importance of the informal economy, both in agriculture and in the broad range of urban activities (household enterprise sector). And yet a debate is raging, with widely contrasting points of view being presented by proponents of industrialization and the strengthening of urban dynamics on the one hand, and proponents of "agriculture first" on the other hand.

This debate is also blurred by input from aid agencies, which sometimes seem to adopt contradictory positions, such as the World Bank, which developed a detailed argument on the central role of agriculture in development in its *World Development Report 2008* (WDR 2008) (World Bank, 2007), and then focused on the prominent role of the process of agglomeration and economic density brought about by urbanization in its WDR 2009 (World Bank, 2008a).

3.1.1 Manufacturing

In the view of the "industrialists", only manufacturing can meet the scale of the challenges facing SSA because agricultural productivity is too low and the expected progress too slow to allow for a rapid escape from poverty. Therefore, the solution for the future of the rural poor lies in cities.[21] The major arguments refer to the change in the international economic environment that today would offer new opportunities for industrialization: an improved business climate in many countries, the gradual increase in manufacturing costs in Asia due to rising wages (especially in China) and the prospects offered by task-based production rather than the manufacture of end products (UNIDO, 2008). This new type of industrialization, or light manufacturing (Dinh et al., 2012), is a consequence of the development of outsourcing and intra-firm trade that characterizes globalization. It is more accessible to late developers to the extent that it requires less capital and lower levels of technical and managerial skills, and remains achievable even in a relatively fragile economic and institutional environment (AfDB et al., 2014). This approach could also develop in the service sector, based on the potential offered by new information and communication technologies, where outsourcing is developing quickly (see below).

There are undeniably potential areas of diversification and opportunities available to SSA: its own growing workforce and the increasing costs of production experienced by its main competitors in the developing world will gradually strengthen its competitiveness; and it is not unrealistic, in absolute terms, to imagine a future Africa as the "factory of the world", taking the place of China. Using this comparative advantage approach, ACET (2014) has

[21] Several publications by Paul Collier illustrate this vision (Collier, 2008, 2009).

already identified priority sectors: namely, agro-processing, the garment industry and component assembly.

In this discussion, however, it is important to take into account lessons from the past and to consider the specifics of past transitions (see section 1) and the necessary timeframe for effective industrial development, with regard to the current structural situation of SSA and the already unsatisfied and ever-growing demand for jobs. There has not been significant industrialization in SSA over the past 50 years, despite formidable urbanization,[22] and new evidence shows that processes of deindustrialization are already at play (Cadot et al., 2015). Examples of industrial free trade zones have produced mixed results (AfDB et al., 2015) and, most importantly, they have only helped to create – depending on the country – tens of thousands of jobs, whereas hundreds of thousands of jobs, or indeed millions, are required annually. This indicates that the potential new comparative cost advantages, which will manifest themselves only gradually, will not be able to balance demand because competitiveness entails more than cost efficiency.[23] Substantial investments are needed in infrastructure (notably energy) and services (in terms of skills improvements for effective business support and efficient banking systems); and even with such investments, it will be impossible to create millions of industrial jobs each year in the near future to meet the labour demand.

The case of China, which is the major international reference for rapid economic transformation, provides an interesting yardstick. The rapid industrialization of coastal China was the result of huge investment in infrastructure and human capital, of strong and direct state interventions and of the drastic management of internal labour migrations through the implementation of coercive methods of control.[24] However, its successful export-led strategy benefited from the combination of trade liberalization and the technical revolution in goods transportation and information and computing technologies (ICT) (i.e. the container and the bar code) which allowed an overall restructuring of supply chains and delocalization. Conditions for Africa today are different: the stimulus of market liberalization is flagging, the growth regime is uncertain[25] and it appears that nearby South-East Asian countries will be better positioned to take over from China and reap the benefits of East Asian delocalization (Rodrik, 2014). This cluster effect will be an additional disadvantage for SSA.

3.1.2 Agriculture

On the other side of the debate on sectoral priorities for action, is the "pro-agriculture" group. Their primary argument concerns the importance of the sector: the majority of the active population in most African countries lives in rural areas, and even given another decade of growth as good as or even better than the past one (which seems debatable today), structural transformation and changes in employment structure will be slow (Fox et al., 2013). The absolute number of workers in agriculture will not shrink, but grow and continue to challenge the ability of the rural economy to meet their needs.

The driving force of agriculture, its intersectoral effects and its role in rural poverty reduction and rural diversification are fundamental factors in the literature on economic development (Johnston and Mellor, 1961; Johnston and Kilby, 1975), and on African development in particular (Delgado et al., 1998; Diao et al., 2007). Improving agricultural performance was a major factor in explaining the rapid progress achieved in East and South-

[22] Yet this urban growth offered all the economic benefits of density touted by the WDR 2009 (World Bank, 2008a).
[23] Competitiveness cannot be reduced solely to costs; it includes product quality and production capacity (the volume of supply), which are the other pillars of performance.
[24] Rural industrialization, promoted through the "township and villages enterprises", was one of the answers for population management. The number of jobs created, even if considerable, required a significant time and persistent effort: 135 million jobs were created over 30 years, between the 1960s and the 1990s when the Government called a halt (Vendryes, 2014).
[25] Some analysts refer to possible secular stagnation. See, among others, Teulings and Baldwin (2014).

East Asia (World Bank, 2007) and several recent studies have confirmed the comparative potential of agricultural growth to achieve poverty reduction relative to urban development.[26] So, "agriculture still matters" in the development agenda (ILO, 2005) and for the structural transformation of the region.

Agricultural development has two major effects. First, increasing farmers' incomes directly affects their options for consumption and for investment and therefore boosts rural demand. This new demand results in new activities and in the diversification of the local economy and contributes to the overall process of structural transformation. Then, growing agricultural outputs lead to the development of both upstream and downstream activities and the consolidation of value chains: provision of inputs and extension services, and transformation and marketing of products. These activities are broad sources of employment and the potential of agro-industries presents a real opportunity for economic diversification (World Bank, 2013b).

The fundamental strategic challenge today is to identify the right development model for agriculture in Africa. Due to generally weak performance in the past (Benoit-Cattin and Dorin, 2012), there is significant room for improvement. However, the labour productivity gaps between Africa and other world regions are huge and could continue to grow (Cheong et al., 2013; Dorin, 2014), and they question the effectiveness of available technical options. In addition, current investments by new players promote large-scale farming.[27] They have reopened the old "small vs large scale" debate about the relative merits of different sizes and types of farms (see box 2).

However, discussing modernization pathways with an exclusive focus on labour productivity and with exclusive reference to farm income, food availability and food cost (Fuglie and Rada, 2013), could result in inappropriate strategies based on scale and motorization being adopted, while labour-intensive production methods should be prioritized (ILO, 2005). There is a risk that such debates could obscure the central issue: the need to increase production to answer a rising food demand in a sustainable way, while creating decent jobs for the growing rural population (Levard and Dumazert, 2014).

[26] Dorosh and Thurlow (2014) have shown, based on growth models applied to Ethiopia and Uganda, that even if cities are still the unquestionable source of growth and structural change in the long term, agricultural activities are likely to have the fastest impact on poverty reduction.

[27] These new investments were triggered by the fear of shortages of agricultural products, revived since the agricultural prices crisis in 2008-2009, and by the new demand for biofuels. They are instigated by the continent's (debatable) reputation for available land and the willingness of many governments to attract foreign capital (Cotula et al., 2009; Anseeuw et al., 2012).

Box 2.
Small- versus large-scale farming: The need for an overall perspective

A false dualism lies at the heart of the debate on agriculture development (Losch and Fréguin-Gresh, 2013). It sets smallholder and subsistence agriculture on one side, against large-scale and commercial agriculture on the other, when the reality is a continuum in which family farming is nearly always the dominant mode of production. Family agriculture – as opposed to large-scale managerial or corporate agriculture – feeds most of the world and is "at the core of world's agriculture history" (Losch, 2015b).

Family farms can be subsistence oriented, commercially oriented, or – most of the time – a combination of the two (Bélières et al., 2014). Moreover, a large body of empirical evidence shows that family farms can be competitive in terms of production costs when compared with large-scale managerial farms. This is the case in sub-Saharan Africa where they are often competitive in the domestic market but disadvantaged in global markets owing to factors unrelated to their size but to the economic and institutional environment. A relatively recent comparison between agriculture in the African savannahs and similar regions in Brazil and Thailand – where agricultural successes are undisputed despite very different contexts – has shown that African producers are competitive at the farm-gate level, and would be competitive on international markets if recurring obstacles in supply and marketing were removed – i.e. high transaction costs and incomplete markets (World Bank, 2009b).

Because they are embedded in the local context, family farms also play a central role regarding the multifunctionality of agriculture which refers to its ecological, economic, social, and cultural roles (Losch, 2004; FAO, 2007) – a dimension overshadowed by the current focus on food security. The concern for food security similarly led many policy makers to overlook the role of agriculture as a source of employment and a driver of structural transformation over the medium term. Being based on labour-intensive production methods, family farms have the largest capacity to absorb the rapidly growing labour force. They have a great potential for the integration of young people (Brooks et al., 2013), provided that attention is paid to improving working conditions and incomes in order to make farming more attractive (Proctor and Lucchesi, 2012; Sumberg et al., 2012) (see section 5). These assets of smallholder agriculture are strongly promoted by family farmers' organizations, which advocate vigorous support from governments and donors' agencies (EAAF et al., 2013).

In contrast, large-scale managerial and corporate agriculture, which is much more likely to be capital intensive, offers fewer prospects for generating major labour opportunities. It can support agricultural growth, the diversification of markets, and the development of sparsely populated areas; it can also facilitate the connection to downstream activities and the agro-industry and contribute to the response to the growing food demand. However, due to the employment challenge, large farms must also be evaluated in terms of job creation and the quantity of land they capture with regard to the future needs for smallholders' development (see section 4.2). In addition, due to the importance of motorization and chemicals in their production systems, they rely on fossil fuels and will need to radically adapt in order to deal with sustainability issues.

3.1.3 Other policy options under consideration

The service economy

The option to leapfrog the industrialization stage has become part of the debate (Ghani and O'Connell, 2014) thanks to growing opportunities related to the development of ICTs and cloud computing. Jobs in services are expanding fast and the sector offers great potential for job creation (Carmignani and Mandeville, 2014).

However, many services are becoming increasingly tradable and competition is fierce at the global level – a consequence of the continuous improvement of communication networks (UNRISD, 2010). In that context, high performance in productivity and quality will be a precondition for success. To function in this marketplace requires highly skilled workers and SSA faces challenging competitors (Rodrik, 2014).

In contrast, sectors based on the specific resources of a place[28] can offer significant opportunities, as in the case of tourism or cultural industries, which rely on non-tradable assets.[29] Yet, these local assets are not a given: they must be developed and this process requires investment and skills. These sectors can contribute to the structural transformation of local economies and can sometimes be effective sources of economic growth and job creation. However, their potential does not meet the scale of SSA's labour demand and they cannot offer an effective alternative in the coming decades.

Natural resources and green growth

There is a large body of literature about the "resource curse" (Bhattacharyya and Collier, 2014), which refers to flawed governance and poor usage of natural resources, confirmed by the mixed results of resource-rich countries in the past. Uneven economic growth and slow progress in the fight against poverty and inequality have generally been the rule, especially where industrial mining is concerned (Revenue Watch Institute, 2013; Gamu et al., 2015). One possible solution would be a virtuous usage of natural resources to support the development of economic diversification, through wise investment of natural resource revenues based on improved transparency and tax collection, better governance of public spending and sound management of social and environmental impacts (AfDB et al., 2013). This scenario would create the conditions for a sustained inclusive growth (Africa Progress Panel, 2013).

However, the long-term consequences of such a strategic choice are risky in terms of the ecological threats and the physical limits of natural resources stock. A more effective sustainable option is the development of a green growth strategy, which calls for dramatic changes in production and consumption modes (UNESC et al., 2011). This strategy has yet to be devised because it implies a radical shift from the current world economic system based on resource extraction (Swilling, 2013). A move towards this new alternative is, however, receiving growing international support.[30]

With its incipient economic transformation and the enduring importance of the rural economy, SSA could well be a suitable candidate for leapfrogging to a more sustainable development path, based on new low-carbon production techniques and environment services (Omilola, 2014). Such a strategy, which is by definition multisectoral, could contribute to the solution of the "African equation". The potential of the green economy to create jobs and increase productivity remains a challenging prospect but some countries, such as South Africa, have already adopted very proactive policies.[31]

3.2 The importance of reinvesting in appropriate development strategies

The preceding subsections demonstrate that the idea of being able to "pick" one specific policy option to speed up SSA's structural transformation is pure fallacy: there is no "sectoral silver bullet" to deal with Africa's structural change challenges in the twenty-first century. Asian successes are often used as a reference in international and continental debates. However, due to the existing structural characteristics of SSA and the emergent international

[28] Contrary to generic resources, which are independent from the particularities of the place where they are located, specific resources, are related to unique local assets, such as natural landscapes, specific biodiversity and cultural heritage. See Campagne and Pecqueur (2014).

[29] Some components of the tourist industry, such as the quality of hotel services, face international competition when local assets are not sufficiently specific (as the sea and sun only can be regarded as generic resources).

[30] The international agreement reached at the United Nations Conference on climate change in December 2015 (Paris COP 21) has resulted in a very supportive context. The opportunity to closely connect development and environment issues is globally supported by growing numbers of donors and international NGOs, as illustrated by the Poverty-Environment Partnership (PEP, 2012), and has been echoed in Africa (AfDB, 2012).

[31] The South Africa's Green Economy Accord (RSA, 2011) plans to generate 300,000 green jobs by 2020. It targets urban planning, energy generation and manufacturing processes, as well as alternative agricultural practices with effective land and environmental management facilitating the development of ecotourism.

economic environment, it is clear that trying to achieve and sustain East-Asian style growth rates based on export strategies would be unfeasible – not to mention the issue of unsustainability, corroborated by serious environmental concerns (e.g., with regard to the dramatic pollution levels in China). Therefore, national dynamics and "what happens at home" (Rodrik, 2013) will increasingly be the crucial determinants.

Instead of trying to adopt "one size fits all" policies, the drafting of genuine, appropriate strategies based on forward thinking and assessing all existing assets is imperative; and the diversity of SSA's countries suggests ad hoc policy choices and a place-based approach. It requires a paradigm shift with the adoption of a broad-based approach, departing from the dominant stance based on sector-specific interventions. Most policies today – and particularly in Africa – are sector-segmented and disconnected from the rest of the economy. Silo-based thinking is the norm (Losch and Magrin, 2013) and governments and donors focus on a programme–project sectoral approach. This practice, which is dictated by existing funding mechanisms, prevents a wider diagnosis-based definition of priorities. Moreover, sadly, the programmes and funding instruments addressing the new United Nations SDGs remain mainly sector-based. This pattern has not changed despite the growing role of new donors from the private sector (foundations) and emerging countries. They all have their own agendas, which target one specific segment within the range of development needs.

Development strategies are the way to escape these sectoral biases, which cannot deal with the embedded challenges of Africa's structural transformation. A development strategy is more than the aggregation of sector policies and cannot be reduced to a purely state-led approach. It is a process of defining priorities adapted to the characteristics of every context, based on a vision of the future shared by stakeholders and the people of a country. The quality and the inclusiveness of this process are absolutely critical and require close attention. Foresight thinking is a powerful tool, which can frame the formulation of strategies by bringing together different levels of government and multi-level stakeholders in a participatory process for building future scenarios and defining policy priorities. As such, a development strategy has to be considered as a public good (Stiglitz, 1998) because it connects policy-making with shared visions of the future, which require commitment and strengthen cohesion and loyalty. Any strategy must receive durable public support during its preparation and design, and consequently it should generate strong donor engagement.

Beyond these fundamental principles, two general comments can be made which relate to the structural characteristics of sub-Saharan Africa. The first refers to the importance of the "basic arithmetic" of numbers (Headey et al., 2010): public policies must address the regional distribution of activities and people, i.e. what people do and where they live (Losch, 2012). The existing employment structure shows the importance of agriculture – which is mainly family-based – on the one side, and of household enterprises, on the other side (see Figure 5). These two sectors form the backbone of the rural and the urban economy. They must receive specific attention, which does not mean ignoring other activities when opportunities exist, but rather that both require greater consideration of their potential for modernization. They are the central elements in SSA's structural transformation and must necessarily aid in the transition to other development models. They will have to provide jobs and income-generating activities for the growing youth cohorts.

On the one side, the potential of family agriculture is acknowledged and was confirmed by the United Nation's International Year of Family Farming 2014 (Sourisseau et al., 2015). Family farms have demonstrated their effective development capacity where they have received the necessary support related to access to credit, information, training and technical assistance and have benefited from a secure environment in terms of land rights and market (access and prices) (Bélières et al., 2014; Sourisseau et al., 2014).

On the other side, the potential of household enterprises and informal activities is also, finally, being recognized. There is a noticeable shift in the viewpoint of policy-makers who, for a long time, considered support to formal activities as the only way to achieve structural change (Beaujeu et al., 2011; Fox and Sohnesen, 2012; Filmer and Fox, 2014). If there is an

informal ("sponge-like") buffer-type sector characterized by very low productivity,[32] there is also an informal sector with a great capacity for change based on significant production factors and strong innovation dynamics (Ranis and Stewart, 1999).

The second general comment refers to the growth potential of the continent. African countries must seize the opportunities of greater inclusion in the world economy, but it appears that the large geographical scale of Africa, the diversity of its ecosystems, its rich natural resources endowment and, above all, its fast-growing domestic markets offer dramatic opportunities just in meeting Africa's own needs. While the region was sparsely populated in the early 1960s, with 220 million people, it can benefit now from the vast potential of its estimated 960 million inhabitants, and it will grow by 1.3 billion people by 2050. This represents the world's fastest expansion and it means feeding 2.1 billion people in 35 years' time, supplying them with goods and services to improve living conditions, providing the necessary human capital, equipment and infrastructure to support these dynamics of change, and investing in exploring new energy and technology frontiers.

The right governance of the existing assets, particularly natural resources (including land), the improvement of human skills and appropriate strategy design are imperative to meet the scale of African challenges. This progress will only be possible if African governments can escape the "rentier" syndrome[33] and concentrate their efforts on building and engaging in an effective regional integration: joining forces between the 48 SSA countries and strengthening the regional economic communities appear to be the precondition to overcoming the challenges of SSA's structural transformation.

The opportunity space for intra-Africa trade and for taking advantage of cross-border dynamics is huge and can support an effective regionalization. Despite the important progress made over the past two decades due to achievements of the regional economic communities (RECs), the removal of tariffs has not led to an increase in regional trade (Faivre Dupaigre, 2007). Difficulties remain and are related to the non-enforcement of RECs' rules, persistent non-tariff barriers related to standards (on both products and inputs) and border crossing harassment. Political commitment to effective harmonization and trade facilitation – and negotiating adequate trade deals – must be a key element of the solution, along with investment in transport infrastructure.

[32] This buffer sector absorbs surplus labour, especially related to rural depopulation. It consists of many "odd jobs" and incomes can sometimes be lower than in rural areas.

[33] For many governments, controlling the revenue from the export of unprocessed raw materials has been a historic feature since colonial times, which essentially shaped national spaces and determined economic practices and power struggles (Magrin, 2013b). "Gatekeeper" states focus on borders producing revenue through exports and imports control and taxation (Cooper, 2002). According to Magrin, this "rentier" pattern can be extended today to include public aid.

Section 4. The new emerging rural Africa and the need for an improved knowledge base

There is, however, a fundamental prerequisite for engaging or re-engaging in strategy design: the imperative of improving the knowledge base on existing patterns and current processes. Indeed, despite recent progress in some countries, statistics often remain limited and unreliable in Africa, with the current knowledge base being termed a "statistical tragedy" (Devarajan, 2013; Jerven, 2013). Within the past 30 years, seven countries have failed to carry out any population and housing census, and 19 countries have failed to undertake a regular census once every ten years (AfDB et al., 2015).

Subnational statistics are limited to a few basic variables, which is insufficient to allow an understanding of regional economies and their dynamics. Many statistical blind spots exist, particularly in rural areas, where data systems mainly concern agriculture and focus on production, and not on rural household activities. Where analyses of rural situations, agrarian systems and types of farms exist, they are mostly case studies, adopting various methodologies, and comparable statistics on rural incomes and rural diversification are lacking. With a few exceptions (e.g. SWAC-PDM, 2001), the major systematic comprehensive studies were implemented about 40 years ago.[34]

This sobering situation calls for a strong reinvestment in knowledge acquisition, the renovation and upgrading of national statistical systems, and the adaptation and reconceptualization of statistical categories in order to capture the rapidly evolving context of sub-Saharan Africa more accurately. This reinvestment is a necessary step for supporting the diversification of rural economies, where the majority of people live, and for identifying the possible role for agriculture and adequate strategies, which reflect the diversity of SSA (Dercon and Gollin, 2014). It should be a priority for governments and a major target for support from the donor community, because designing well-targeted policies can facilitate progress and adaptation and provide answers to the existing challenges, helping to avoid structural dead ends.

4.1 Changing rural realities

Understanding the rapidly evolving context of rural Africa should be at the top of governments' and donors' "to-do" lists. Starting from the existing knowledge base, this will require a very substantial effort.

One preliminary remark is that, paradoxically, there is no standard definition of "rural". Rural areas do not have any positive definition but, rather, their shape is often derived from that of cities: what is rural is what is not urban. According to the FAO, the rural population is the residual number after subtracting the urban population from the total population[35] and this view is adopted by most countries in the world. In addition, cities do not have a standardized definition either and broad variations exist between countries. The main determinant is population size, with a size limit (which differs between countries) above which an agglomeration becomes urban. However, the size limit is sometimes coupled with more qualitative items, such as the percentage of households engaged in agriculture, and it also (frequently) includes administrative status. As a consequence, the vision of what is urban

[34] Examples are the series of agrarian studies published in the collection *Atlas des structures agraires au sud du Sahara* in the 1960s and 1970s (see Raison, 1975) and the regional studies and atlas prepared in many countries as part of the national planning processes. For the experience of Côte d'Ivoire, see Ancey and Pescay (1983).
[35] See the FAOSTAT website: http://faostat3.fao.org/mes/glossary/E [25 Mar. 2016].

and what is rural is blurred by definition and the ongoing changes are only increasing the uncertainty – a major difficulty for action and forward thinking.

Today in Africa, growing demographic densities, gradual improvements in infrastructure and, in particular, the quickly adopted mobile phone revolution, have profoundly changed the countryside and affected internal migration patterns. Beyond definition difficulties, the static categories of "rural" and "urban" no longer capture the hybridity of those shifting relations between cities and the countryside (Agergaard et al., 2010; Berdegué and Proctor, 2014; Losch, 2015c) and suggest a "new rurality" in Africa (Losch et al., 2013).

Several patterns must be highlighted. The first is the diversification of migratory practices. Along with the international long-term migration and seasonal migration flows, a growing tendency for shorter and temporary migratory practices has emerged (De Brauw et al., 2014). These new patterns may comprise weeks or days, as well as daily commuting, where transport conditions allow. The degree of change in migration practices often reflects the regional density and quality of transportation, creating clear country differences in the display of networks. Therefore, many villagers become urbanized, while new urban dwellers continue with some of their previous rural activities, notably farming (Losch et al., 2012).

Second, this increased mobility changes family structures, lifestyles and livelihoods. Different households members may pursue activities in different places – in their village, the neighbouring village, the small town, the capital city or even abroad – therefore diversifying their sources of income.[36] Such new practices generally do not disturb family cohesion, which can even be strengthened by embracing them (Bosc et al., 2015), creating a new kind of "archipelago" family economy, already observed in rural Latin America (Quesnel and del Rey, 2005). Living in multiple places produces new "functional spaces" that the assumptions of decision-makers often fail to capture (Ma Mung, 1999; Cortes and Faret, 2009; Mercandalli, 2015a).

Third, this new mobility gradually strengthens the patterns of rural diversification. The progressive development of new activities and new incomes by rural households in addition to "traditional" on-farm activities results in a new rural economy that profoundly changes local and regional economic patterns.

There is a broad literature on rural diversification[37] which has somewhat overemphasized – due to limited evidence – the effectiveness of the processes under way.[38] One certainty is that diversification is now the norm in rural Africa, with the exception of a few isolated and sparsely populated regions. Moreover, young household heads are more likely to be involved in these new dynamics (Davis et al., 2007).

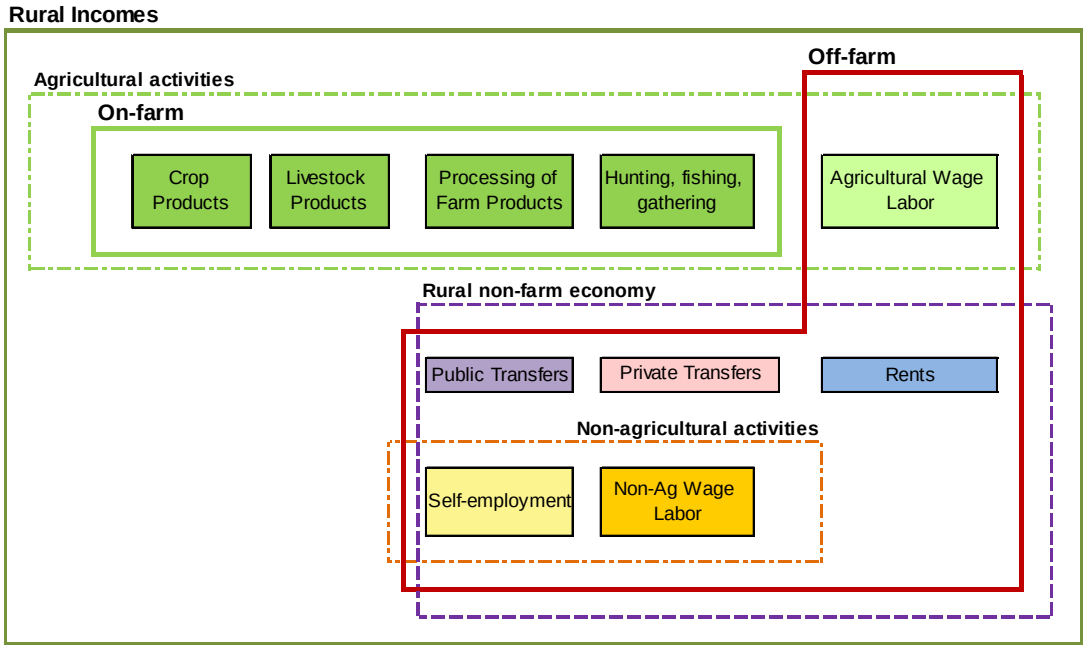
The explanation for rural households' diversification is twofold. This process is, first, the result of the high risk levels faced by farm household members (related to climate, pests, prices and market access), who therefore seek income opportunities beyond the farm. The second driver of the process is the rising opportunities related to the changing patterns of rural areas described above. However, despite these general tendencies, the degree of development of the rural non-farm economy remains uneven, and the rural off-farm sector is

[36] Guetat Bernard, 1998; Francis, 2002; Tacoli, 2002; Mercandalli and Anseeuw, 2014; Andersson Djurfeld, 2014; Tacoli and Vorley, 2015.
[37] Reardon, 1997; Ellis, 2000; Bryceson, 1999, 2002; Haggblade et al., 2007. For an up-to-date and extensive review, see Alobo Loison (2015).
[38] The existing knowledge base rarely addresses households' incomes and activities. Among comparable data sources are: the FAO and World Bank Rural Income Generating Activities (RIGA) surveys, although these only consider a limited number of African countries (Carletto et al., 2007), and the new Living Standards Measurement Study – Integrated Survey for Agriculture (LSMS-ISA) launched by the World Bank in 2009, which is progressively developing.

often characterized by high levels of self-employment, provision of petty services and few formal opportunities to earn a wage.

Rural households' diversification patterns are most often a combination of four main categories of income (Losch et al., 2012): agricultural and non-agricultural wage labour, self-employment and transfers (Figure 12 below).[39]

Figure 12. Classification of activities and income of rural households



Source: Losch et al. (2012), p. 120.

(i) Empirical evidence on rural labour markets is scarce and often unreliable but agricultural wage labour is a common off-farm activity (Oya, 2010; Mueller and Chan, 2015). It can help rural households to supplement their on-farm incomes between cropping seasons by selling their labour to other farmers. This option is particularly important (and sometimes imperative) for poor households which cannot access other income-generating activities.40 However, if this source of income is frequently accessed, returns are quite small. Demand (and supply) for these jobs is almost always seasonal and poor farmers tend to offer their labour, all together, at times when labour needs are limited. As a result, agricultural wage employment provides a very limited income when aggregated over the year. The real difference comes with permanent jobs, which can be offered by agro-industrial farms or estates and by large family farms, but these opportunities are limited and do not provide a sustainable solution for many.

(ii) Non-agricultural wage labour is a limited option, mainly found in regions with unique endowments of resources, infrastructure and services. In SSA, rural manufacturing work is scarce or non-existent and opportunities mainly consist of jobs in the service industries. These are generally poorly paid and in the informal sector, although some formal sector jobs can be found (for example, in civil service or tourism). The most lucrative opportunities are usually available to households that are already well off, with ample human and social capital.

[39] Rents are also observed. They mainly consist of rental revenues from physical assets (land, equipment and housing). Income from securities, where observed, is exceptional. These rental revenues are, to date, very low in SSA but might increase with the development of land markets and real estate near cities.

[40] This pattern is illustrated by rural household survey results in Madagascar, displayed in Figure 13, where agricultural wage labour is common and crucially important for the poorest families.

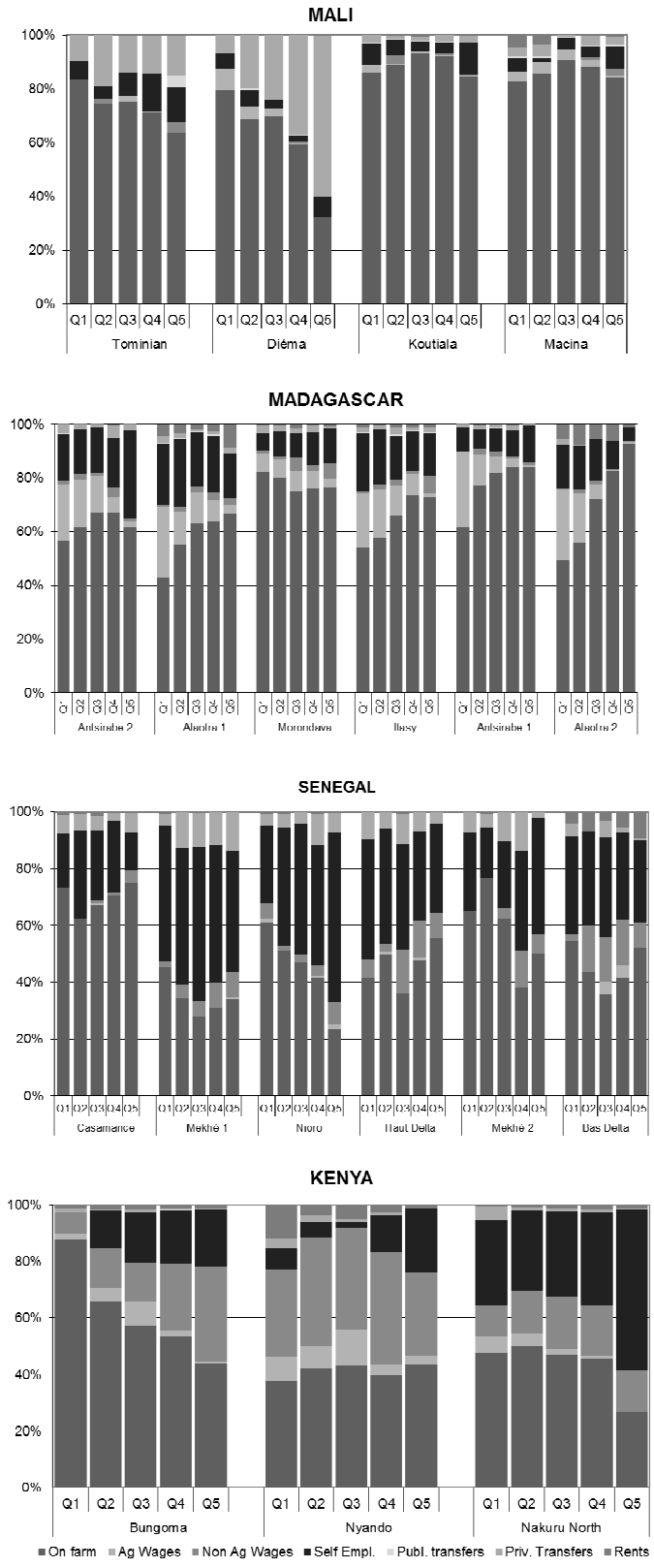
(iii) Self-employment is prevalent everywhere. It is the most common source of off-farm income in SSA. These activities are almost always carried out at the micro-level, in micro- or small household enterprises and are often based on the performance of odd jobs. Nevertheless, two main self-employment patterns can be distinguished: (a) a "positive" diversification (generally a full-time activity), in which self-employment contributes significantly to household income, and (b) a "neutral" diversification, in which the poorest and most marginalized households develop coping or survival strategies by engaging in minor self-employment activities with very low returns. Positive diversification is accessible mainly to better-off households – those with more or better assets and the ability to make an initial investment (for example, a grinder, a sewing machine or welding equipment). Other types of self-employment, especially those related to coping strategies (for example, petty trade), could rightly be considered a form of underemployment and do not represent a good option for the alleviation of poverty. They do not allow households to engage in an effective diversification path.

(iv) Transfers can contribute significantly to the income of rural households. Public transfers related to farm subsidies and safety nets are very limited in SSA, even though some countries have engaged in conditional cash transfers programmes. Private transfers related to migration (remittances) are more common but difficult to quantify and highly variable, depending on the region. The importance of remittances depends on the type of migration (long term or short term) and the destination (national or international, to high-income countries or neighbouring countries). Poor households often engage in short-term migration with the aim of reducing the number of mouths to feed during the dry season. In these cases, remittances are often very limited or even non-existent, and the living conditions of the migrants can be dire.

In order to illustrate the variation in diversification patterns, Figure 13 displays the average income structure for 19 regions in four SSA countries.[41] It highlights major differences between regions of the same country and within regions, depending on the level of income (presented here by income quintiles). It also strongly suggests that on-farm activities still remain the backbone of rural economies. In the surveyed regions, 95 per cent of rural households have a farm.

[41] This figure is based on rural household surveys simultaneously implemented in 2008 by the RuralStruc programme in seven countries of sub-Saharan and North Africa and Central America (see Losch et al., 2012).

Figure 13. Rural diversification patterns in four SSA countries42



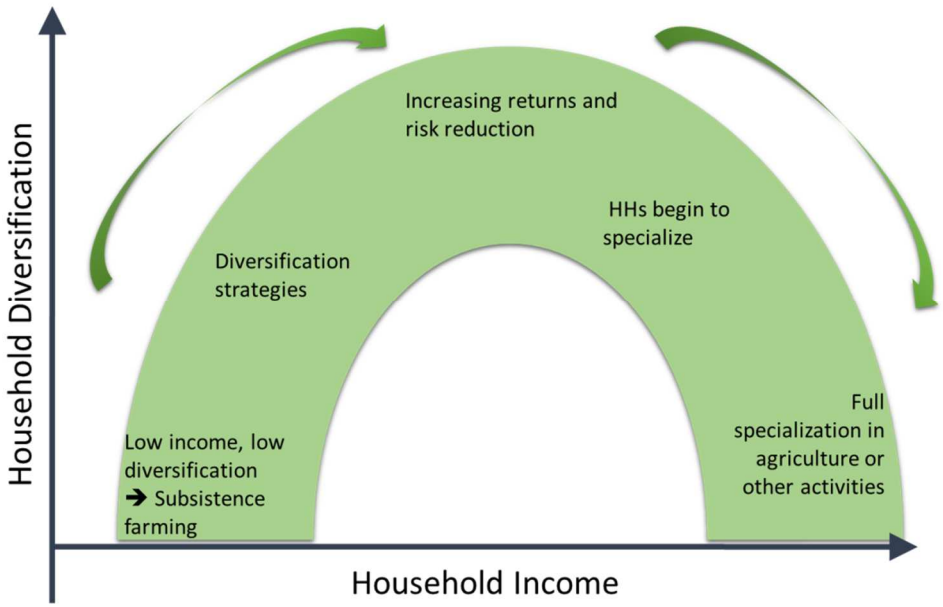
Source: Losch et al. (2012), p. 206.

[42] Percentage of average households' overall income in $PPP per quintile of income and regions.

The analyses of rural households' income diversification indicate a strong diversification–income relationship (i.e., between the share of non-farm income and total household income). Although the literature review (Alobo Loison, 2015) shows conflicting empirical evidence, with strong negative or positive linear patterns and U-shaped or inverted U-shaped patterns, it appears that the inverted U is quite common in SSA (Reardon et al., 2000; Losch et al., 2012). This means that the middle-income households have a higher share of off-farm incomes than do the poorer and richer households, which are more specialized (Figure 14).

At very low income levels, households focus on survival strategies. Food security is the major objective and they are fully engaged in farming with no labour time and no assets to allocate to non-farm activities. When incomes start to rise, even slightly, households can develop more room to manoeuvre and begin to diversify their activities to cope with risk and to find additional revenues. At this stage, diversification takes place only at the household level (within-household diversification) with household members engaging part-time in different activities, while the region remains highly specialized in agriculture. The process of diversification continues with rising opportunities due to an improving economic and institutional environment to the point at which households develop a sufficient wealth and asset base to allow them to earn adequate returns through specialization. Depending on the context and their own assets, households can specialize in on-farm or off-farm activities, contributing to regional diversification. At that stage, diversification occurs between and not within households.

Figure 14. Stylized representation of the inverted U-shaped pattern of rural households' income diversification



Source: based on Losch et al. (2012).

Due to the very low level of incomes in rural areas, the fact that most households in SSA are on the left-hand side of the inverted U is an important result. It points to two major issues. First, policies have to reduce risks for rural households: food insecurity and, more broadly, economic insecurity through secured markets, lower transaction costs and improvements in agricultural productivity. Second, the low level of opportunities in rural areas (i.e. the countryside plus small towns and their hinterland) indicates that much has to be done in terms of public goods provision, services and infrastructure development at the bottom of the urban systems. Improving urbanization assets would unlock potential for diversification and facilitate rural households in their progress towards the right-hand side of the inverted U.

4.2 What room and role for agriculture?

The review of main trends in a changing rural Africa and the discussion of rural diversification highlight the continuing importance of agriculture and the coping strategies developed by poor farmers and their families, who make up the majority of rural people. This role of agriculture is consistent with the employment structure of the region discussed in section 2. However, recapping previously discussed issues helps to raise critical questions, which are central to Africa's future.

Indeed, the booming labour force which characterizes SSA and the "big numbers" resulting from the existing UN projections, the enduring share of rural population in the total population in the coming decades, and the limited prospects for labour absorption by poorly diversified SSA economies in the existing international context (section 3), all put agriculture at centre stage for employment and youth employment. However, restricted knowledge base once again poses problems. What is the existing room for manoeuvre for agriculture's development? And what could agriculture's effective role be in terms of job creation with regard to its capacity to provide decent incomes? Answering these questions will determine the part that agriculture can play in solving the "African equation" and hence addressing Africa's demographic and economic transitions.

The evolution of African agriculture will depend on multiple variables related to technical progress, adoption of innovations and improved skills, and the development of an economically and institutionally conducive environment. It will also depend on natural resources – land, water and biophysical endowments determining yield potentials (soil characteristics, pests and diseases, rainfall and temperature and topography) – on the possible adaptation of farming systems and on the profitability of farming activities.

4.2.1 Land availability

Among these variables, land availability is one of the most critical. First, because over the previous decades most of the agricultural development in SSA relied on the expansion of cropland, instead of intensification – a result of land availability, unfavourable input prices and access, and value of farm products (Dorin, 2014). Second, because Africa has a reputation for abundant arable land, which has been used to justify the rush for land over the past decade, particularly since the 2008–2009 food price crisis.

However, current knowledge about land availability and land utilization is very poor. Data are scarce and consolidated information is lacking, both at the national and international level. Therefore, a better understanding of what land is currently being utilized for farming activities (for crops, meadows, pastures, fallow land, and for hunting and gathering), and what would be suitable for agriculture development, is both critical and challenging. Particularly because there is a major dimension related to property rights which is central to this discussion and to the definition of what is "available" and what is not.

Due to high variability in population and densities, major differences exist both among and within countries (Box 3). However, the trend is about growing tensions over land resources, with declining farm sizes. Some countries have already exhausted their land reserves (e.g. Malawi) and many others will come to the end of their available land capacity in the near future (for example, Ethiopia and Uganda), which means that agricultural development can no longer rely on area expansion (Jayne et al., 2014). In some situations, large land resources do still exist (such as in Zambia and Madagascar), but accessing these resources for agricultural development will generally require significant infrastructure and regional planning. These population–resource dynamics are likely to lead to growing internal migrations (rural–urban and rural–rural) and possibly to migrations between countries, which could result in severe political instability.

Box 3.
The debate about land availability: Existing estimates and what they suggest

Estimates about available land reflect the general degree of ignorance. Many studies have tried to provide numbers since the 1990s, increasingly using geo-referenced data about land cover and mobilizing sophisticated computing systems to analyse various databases. However, estimates of the stock of potentially available cropland (PAC) vary from 200 to 800 million hectares (ha).[43]

Chamberlin et al. (2014) provide a review of existing work and show that results are highly sensitive to the quality of information and to assumptions, notably the thresholds used to identify underused land resources. Following Young (1999), they also note that variations in numbers reflect a combination of overestimation of cultivable land and underestimation of already cultivated land or land used for other activities. They propose a new approach, endeavouring to fine-tune estimates by taking into account the necessary profitability of farming, considering that in those areas that would yield under $250 net revenue per hectare (depending on yield potential, costs and crop prices), there would be no incentive for cropland extension.[44]

Table 3 provides the estimated PAC for SSA with a regional breakdown.[45] Depending on the inclusion or exclusion of forested areas, which represent about 50 per cent of the potential (this choice is not neutral in terms of sustainability), the extent of suitable land for farming varies between 250 and 460 million ha, with the major potential being in Central Africa and the Congo Basin (which is also the site of the major forest areas). Available resources are more particularly located in very few countries (such as the Democratic Republic of the Congo, Sudan, Zambia, and also, Angola, Madagascar and Mozambique). However, when taking into account the necessary profitability of farming, the estimated range is between 80 million ha (when forest land is excluded and with limited input use) and 385 million ha (forest included and with high input use). In addition, these PAC numbers are highly sensitive to several constraints on cropland expansion, such as conflicts, rainfall instability and endemic diseases, and adequate infrastructure (roads) can be a prerequisite.

All these limitations suggest that caution is necessary and that the error margin is high. Nevertheless, the magnitude of the possible range of "available" area provides an interesting yardstick to be compared with the approximately 270 million new workers who should contribute to the increase in the labour force in rural areas over the next 35 years (see section 2). The share of agriculture in their employment will depend on non-farm opportunities but, if they were fully in the sector, a simple basic calculation using data from Table 3 shows that every new worker could aspire to 0.9 ha for farming or to 1.7 ha when sacrificing the forest.

These numbers are, of course, hypothetical but they show that tensions over land resources and other natural resources will be high, will increase in absolute terms, and will be even higher when considering the situation of specific regions and countries. Table 3 presents estimated potentially available and suitable cropland for selected countries from different SSA regions: it shows major differences between countries (e.g. South Africa and Malawi), critical situations almost everywhere and several places where agriculture will definitely not be able to absorb the increasing rural labour force, even utilizing all the forested areas.[46]

[43] FAOSTAT does not provide any estimation of available land. It distinguishes "agricultural area", "forest area" and "other land" (built-up and barren land). Agricultural area includes "arable land and permanent crops" and "permanent meadows and pastures". For SSA, the reported data for 2012 are: agricultural area (959 million ha), comprising arable land and permanent crops (224 million ha) and permanent meadows and pastures (735 million ha), and forest area (589 million ha).

[44] $250/ha is already an extremely low rate of return and under the extreme poverty line if one considers 2 hectares for a five-member household.

[45] The authors use several criteria to identify suitable areas for extension. They must be non-cultivated, non-forested (they develop two scenarios, with and without forest land), not protected (conservation areas and national parks) and, above all, have population densities below 25 persons per km^2. This last criterion is debatable but it is considered that, in higher density areas, cropland expansion could impact existing communities. See Chamberlin et al. (2014) for more developments and discussion of different density thresholds.

[46] The estimated numbers for Madagascar are significantly higher than the numbers referred to in box 1. This difference is explained by the uneven distribution of the population in the country with high density areas, such as in the Vakinankaratra region, and sparsely populated areas which could be developed with adequate regional planning.

Table 3. Estimates of potentially available cropland per region (million ha)

	Suitable cropland					% of suitable cropland with risks of		
	Excl. forest		Incl. forest		Forested			
	Mha	%	Mha	%	%	conflict	disease	rainfall
East/Central	126	51	261	57	52	80	93	2
Southern	94	38	141	31	33	5	71	76
West	28	11	54	12	49	10	99	2
SSA	**247**	**100**	**456**	**100**	**46**	**49**	**87**	**25**

Source: Chamberlin et al. (2014)

Table 4. Estimates of potentially available cropland and average PAC per additional rural active person in 2050 for selected countries

	Rural active population (Thds)			Estimated PAC in 2014 – ha (Thds)		Average PAC (ha) / new rural active person in 2050	
	2015	2050	Increase	Excl. Forest	Incl. Forest	Excl. Forest	Incl. Forest
Benin	3,351	5,548	2,197	2,100	2,858	0.96	1.30
Ethiopia	44,081	78,953	34,872	4,716	5,817	0.14	0.17
Liberia	1,239	2,064	825	399	1,730	0.48	2.10
Madagascar	8,721	15,438	6,717	16,300	18,300	2.43	2.72
Malawi	7,409	18,453	11,044	24	37	0.00	0.00
Mali	5,282	10,723	5,441	2,699	3,083	0.50	0.57
Senegal	4,539	8,678	4,139	1,178	1,315	0.28	0.32
Sierra Leone	2,130	3,218	1,088	12	23	0.01	0.02
South Africa	12,607	10,120	-2,487	4,577	5,115	--	--
Togo	2,412	4,127	1,715	348	470	0.20	0.27
Uganda	16,184	41,640	25,456	758	999	0.03	0.04
Zambia	4,901	10,484	5,583	25,500	42,100	4.57	7.54
SSA	322,126	591,103	268,977	247,352	455,859	0.92	1.69

Source: Chamberlin et al. (2014).[47]

This challenging situation calls for forward thinking on the part of governments, which must avoid simply continuing business as usual. It therefore requires a significant investment in stocktaking effective land use and land availability and strong donor support. This is a precondition for designing national and regional strategies – and particularly for assessing sectoral labour absorption capacities – for land management and for regional planning.

This discussion about tension over land resources helps to point out two specific issues with potentially severe consequences. The first is the impact of large-scale investments in farmland, notably by international investors. Based on the Land Matrix network and database, as well as on regional reviews, the Land Policy Initiative (2013) estimates these large acquisitions with effective property transfer at 27 million ha.[48] There are many differences in the types of deals brokered, their duration and conditions in terms of investments and job creation, among other factors. However, this estimated acreage is not marginal: it corresponds to about 10 per cent of Africa's total suitable cropland (excluding forest) proposed by Chamberlin et al. (2014). African farmers' regional networks are particularly aware and mindful of this evolution and are calling for clear support from governments (EAAF et al., 2013).

[47] The author is grateful to Jordan Chamberlin who kindly provided the set of country calculations. The database includes 39 countries and excludes island nations and very small territories.
[48] See Anseeuw et al. (2012b), Althoff et al. (2015) and also Schoneveld (2014). http://www.landmatrix.org/en/

The second issue refers to observed situations of land concentration in many countries resulting from an escalating process of land acquisition by urban investors who engage in medium-scale farming. The rise of wealthy groups of urban dwellers, the development of land markets – even if informal – and speculation on future land value have encouraged a national land grab, which translates into differentiation of farm structures. Jayne et al. (2014), based on case studies in Ghana, Kenya and Zambia, report the rapid rise of medium-scale holdings and particularly of farms over 20 ha. While these still represent a small proportion of the overall number of farms, they account for an increasingly large fraction of total farmland, where the majority of household plots are below two ha.

These two issues confirm the importance of policy choices being made today about land, notably land deals, but also to the existence of a laissez-faire attitude regarding land concentration and elite capture. These developments will have an enduring effect on the future of Africa's agriculture, its labour absorption capacity, and its role for inclusive growth and poverty alleviation.

Governments must discuss with investors the type of projects being proposed and target developments which are both compatible with regional specificities (in terms of population, social acceptability, land availability, environment and farm structures) and useful for local stakeholders (with regard to returns, jobs and specifically jobs for youth, infrastructure and equipment), and for the country (added value, fiscal revenues, regional development and employment).

Based on an extensive review of agro-industrial projects in Central Africa, Feintrenie et al. (2016) caution that project patterns must be selected according to the local context.[49] They also highlight the importance of the preparation process prior to the implementation of a project, which must involve all the stakeholders: the investor, local communities, producers and their organizations (farmers and civil society associations), who have a critical role to play (including giving a prominent voice to youth), and the Government, which must monitor the implementation and ensure that social and environmental accountability policies are respected.

4.2.2 Profitability

While there is, undoubtedly, a critical need for a better understanding of the existing room for agricultural development, the effective role of agriculture in terms of the sector's capacity to absorb the growing labour force will also depend on the profitability of the activity. Today, the majority of African farmers are poor because returns to the activity are small due to limited outputs and market inefficiencies. However, the prospect of rapidly growing agricultural markets, due to demographic growth and to the continuing process of urbanization, should benefit African family farmers provided that this opportunity is not captured by large corporate farms or importers.[50] To give an insight into the existing potential: in 2014, the value of food imports into sub-Saharan Africa was $31 billion. African producers should be better positioned to capture this huge market.[51] Moreover, in the coming decade, the value of food markets should increase nearly threefold, from $313 billion in 2010 to $1 trillion in 2030 (World Bank, 2013b).

Two major options exist for improving farmers' incomes. They are, of course, not exclusive. The first is related to increasing the value of farm outputs through: (i) the diversification of agricultural production with more high-value products – such as fruits,

[49] They refer to three main agro-industrial models: processing and marketing of small producers' production in densely farmed areas; plantation estates with a processing plant where population is scarce and land resource abundant; or the latter agro-industrial scheme articulated with family outgrowers in more intermediate types of situation.
[50] The urban/rural population ratio (U/R), which indicates the urban market opportunity for rural producers, will double (from 0.6 to 1.2) between 2015 and 2050.
[51] WITS/Comtrade (SITC Revision 3), year 2014, product groups 0 (food and live animals) and 4 (animal and vegetable oils and fats).

vegetable and dairy or "label" production (based on organic, fair trade or social certification); (ii) the improvement of marketing systems; and (iii) the transformation of products on-farm when possible (incorporating primary processing like shelling and grinding).

The second option concerns increasing land and labour productivity. Although yields have slightly increased over the past decades (Dorin, 2013), African agriculture has the lowest productivity when compared to other regions of the world. The Green Revolution observed in Asia did not occur in Africa for many reasons relating to the different institutional context, greater diversity in cropping patterns (requiring higher investments in research), limited physical infrastructure, particularly irrigation, and defective rural financial systems (Mellor, 2014). Today, the consensus on agricultural development in Africa concerns the adoption of the Green Revolution package and the "classical" pathway of modernization – intensification based on modern inputs (improved seeds and inorganic fertilizers). This development option was supported by international agencies and research and adopted by governments. It is the backbone of the African Union's CAADP (Comprehensive Africa Agriculture Development Programme), launched in 2003 (Maputo Declaration) and confirmed in 2014 (Malabo Declaration), which is Africa's policy framework for agricultural transformation.

There is, however, growing evidence of difficulties in ensuring the sustainability of such a model (Jayne et al., 2014). It relies on non-renewable fossil fuels and the efficiency of costly fertilizers is reduced by soil degradation in many regions of the continent. This soil degradation is a consequence of continuous cultivation and the lack of crop rotation where high population densities exist, resulting in soil acidification and deficiencies in soil organic carbon and micronutrients (Affholder et al., 2013; Tittonell and Giller, 2013). This situation confirms the need for investment in alternative approaches, based on soil rehabilitation using organic matter and moisture retention.

A broad range of literature has developed over the past 20 years on the necessary shift from unsustainable agriculture based on chemical inputs towards a more sustainable agriculture based on the valorization of ecological processes (Altieri, 1995; Gliessman and Engles, 2014). There is a growing body of evidence demonstrating that agroecological approaches can be highly effective in boosting production, managing natural resources, developing biodiversity and fostering social inclusion through the valorization of farmers' knowledge (Altieri et al., 2012), thereby improving the natural, human, social, physical and financial capital of rural communities (De Schutter, 2010; Koohafkan et al., 2011).

Employment is rarely addressed (or is indirectly addressed) in existing evaluations of agroecological practices (e.g. Lampkin et al., 2015), because labour needs are perceived more as a constraint than an objective (Tripp, 2005). This can be explained by the situation of agricultural labour scarcity in the context of rich industrialized countries (as well as in Latin America), where agroecology research and experiences initially developed, and where the issue is more a question of finding workers than finding jobs.

The situation in SSA is, of course, the opposite and the development of agroecological practices could offer significant opportunities for a growing rural labour force (Pretty et al., 2011). Although quantitative data on the impact of agroecological practices on employment are lacking, comparisons between organic and conventional farming systems estimate that the former requires 35 per cent more labour (Pimentel et al., 2005). In addition, agroecological practices are more closely aligned with the economic environment of African farmers: they are less capital intensive and rely more on local ecosystems knowledge. These practices therefore have the capacity to stimulate local networks, feed development strategy design and contribute to territorial development.

Given this scenario, there is a critical knowledge challenge relating to the evaluation of different existing options for agricultural development in Africa: depending on existing ecosystems, what are the possible farming systems and what is their labour component and

their profitability? How many and which types of jobs could be offered and what would be their possible remuneration?

Beyond agricultural production, a way to facilitate the development of agroecological practices and to improve their profitability – and farmers' incomes – would be the implementation of payments for environmental services (PES). Karsenty (2015) defines the characteristics of two types of PES: use-restricting PES, which are collective contracts with communities, rewarding them for preserving specific ecosystems; and asset-building PES, which support farmers in the adoption of environment-friendly practices. Payments are generally based on labour costs invested and can also include the use of specific species or costs for specific infrastructure. So far, the development of PES remains very limited. It requires a dedicated budget, which could be provided through innovative tools (Karsenty, 2015), such as broad base and low rate taxes (e.g. small fees on telephone units). It also requires certification and monitoring, which is a significant obstacle due to the informal nature of African agriculture. Above all, though, it requires the political will, based on a strategy dedicated to promoting sustainable development and the diversification of rural economies.

Section 5. Building blocks for rural change and an inclusive growth process for youth

The share of SSA's youth in global youth will double in the coming 35 years from 15 per cent in 2015 to 30 per cent in 2050. Demographic trends, their consequences on employment, the limitations of economic diversification in Africa and its consequences for job creation all put considerable emphasis on youth employment. A sustainable and inclusive growth in SSA will not be achieved without addressing this youth employment challenge.

5.1 There are youth-specific factors … but youth are not located on an island

There is no agreed definition of youth. The 15–24-year-old age range is commonly used, notably by the UN agencies, but the African Union defines youth as the 15–35-year-old age group (African Union, 2006). Beyond the statistical definition, the social and cultural context also counts and it is possible to be old and to remain in the youth category. This is the case in rural Africa where access to voice, to land and to full economic independence can occur relatively late in life (Chauveau, 2005; Boyer and Guénard, 2014).[52]

The 15–24-year-old age group represents 20 per cent of SSA's population today and, unlike in other regions, this youth share will remain high and stable (19 per cent in 2050). In absolute terms, SSA's youth will grow from nearly 200 million in 2015 to nearly 400 million in 2050,[53] and its share in the labour force will remain the highest in the world, even if following a declining trend. Representing 37 per cent today – in comparison with 30 per cent in India, 25 per cent in China and 20 per cent in Europe – it should still account for 30 per cent in 2050.

Youth's access to employment or to an income-generating activity is a global challenge (ILO, 2012), which is particularly critical in SSA. Due to the predominance of the informal economy, the measurement of unemployment is very difficult and unemployment figures for youth are very low and conservative because of the broad definition of employment itself (AfdB et al., 2012).[54] The unemployment figure is often under 10 per cent with more prevalence in urban areas (World Bank, 2009a). Similarly, categories such as the NEETS ("not in employment, education or training"), used by several countries and the OECD, are not really applicable. In fact, unemployment is a "luxury situation" for youth (YEN, 2010) because the widespread poverty and lack of social safety nets do not give them the option to stay inactive. They have to be engaged in activities in order to sustain their livelihood: family labour, odd jobs and other "petits boulots" developed in several places – often mixing rural and urban settings through circular short-term migrations (see section 4.1) – which result in diversified but limited sources of incomes. Low returns and underemployment are a common feature, particularly in rural areas where the seasonality of agricultural production shapes the activity profile (van der Geest, 2010).

If in the long run, due to the demographic transition, the youth employment situation is to "mechanically" improve with a more favourable effective dependency ratio (active versus inactive people), the next two decades – at least – appear to be absolutely critical.

However, and paradoxically, young people remain marginal to development debates and planning (Vargas Lundius and Suttie, 2014), even if the "Arab springs" or the recent

[52] This is also observed in cities where accessing economic independence is increasingly difficult for youth (Antoine et al., 2001).
[53] Based on the estimated share of rural population in 2050 (45 per cent), the number of rural youth should grow from 120 to 180 million in 2050.
[54] According to ILO, "the employed comprise all persons above a specific age who during a specified brief period, either one week or one day, were in the following categories: paid employment … or ... self-employment. Unpaid family workers at work should be considered as in self-employment irrespective of the number of hours worked during the reference period". Available at: http://laborsta.ilo.org/applv8/data/c2e.html [25 Mar. 2016].

wave of international migrations have been and are progressively changing the views of policy-makers (and politicians). Of course, many initiatives for youth exist, but they are often too narrowly targeted and specialized, and very normative, considering youth as a homogeneous group requiring specific support through standardized actions (Sumberg et al., 2012). In addition, these initiatives tend to mainly target the needs of urban youth, neglecting their rural counterparts.

The main programmes focus on skills acquisition with vocational training, apprenticeship and "second chance" packages, and also propose entrepreneurship schemes and specific support, such as public works programmes or wage subsides for entitled unemployed workers (Betcherman et al., 2007; Beaujeu et al., 2011). According to the Youth Employment Inventory (Rother, 2006), successful interventions are often the ones which offer training with apprenticeship, entrepreneurship promotion and a social perspective, taking into account the concrete difficulties of youth integration and offering support with life skills, reproductive health and HIV/AIDS prevention.[55] Specific programmes for rural youth have also been developed more recently, such as the FAO and ILO's rural employment and decent work programme, or adopt a broad vision, like ILO's Youth Employment Programme (Elder et al., 2015) and the Work4Youth initiative.[56]

Globally, the programmes that specifically address youth issues are often at risk of considering youth in isolation, as if they were on an island, while the challenge of youth employment is intrinsically embedded in the complexity of Africa's transformation. The structural transformation of SSA is a major constituent of the problem of youth employment, and it will be key to finding the solution. Education systems can definitely facilitate the development of new activities through skills upgrading and diversification and the consequent new job demand can often be met through ad hoc training programmes.

Therefore, the policy priority today is not to seek silver bullets which would give youth direct access to decent jobs, it is to seriously focus on youth specifics within an overall strategy for an inclusive economic and social development. This is the standpoint of this working paper on structural transformation: youth employment will stem from a dynamic process of change, and it is crucial to identify the indispensable building blocks in order to facilitate transitions.

5.2 Necessary priorities for action

In the situation of low-income and lower middle-income countries, which correspond to sub-Saharan Africa, every development need is a priority and everything has to be done. However, the choice of what to prioritize is key and the objective must be the identification of the right options with enough leverage to facilitate an inclusive and sustainable growth process where youth will be naturally brought on board.

What must be done? While it is necessary to avoid the "silver bullet syndrome", it is also imperative to avoid the long "shopping list" of policy measures which has emerged from the past decades of development practice. The core list of things to do, translated into recommendations for action, which is common throughout the literature is: the improvement of imperfect markets (by lowering transaction costs); the development of missing markets (particularly credit, technical support and insurance); the provision of public goods (infrastructure, research, information, education and capacity building, and health services); and the introduction of risk-mitigation mechanisms.

[55] An example is the Programme for the Promotion of Children and Youth in Uganda. The experience of the *Maisons familiales Rurales* network (MFR) is also worthy of attention. With about 1,000 centres in 30 countries in every continent, MFR propose an alternative approach in which training is fully embedded within the reality of rural life, addressing the specific needs of youth in close connection with local dynamics. See Erceau and Le Bissonnais (2014).

[56] See http://www.fao.org/rural-employment/en/ and http://www.ilo.org/w4y [25 Mar. 2016].

However, procuring all the ingredients for effective policies is challenging, given that policy-makers have to address a multitude of problems simultaneously, under financial and human resource constraints. Therefore, choices necessarily have to be made in terms of prioritization, targeting and sequencing, and these choices are, of necessity, homemade because policies must be tailored to local circumstances.

Based on the main arguments developed in this working paper, it is possible to target three main priorities, which are valid for most of the situations in SSA. They concern support for strategy design and evidence building, smallholder agriculture and the diversification of rural incomes, and territorial development. This focus on rural and territorial issues, which includes small and regional towns, reflects their core positioning in Africa's structural transformation. It obviously does not ignore the importance of large cities and urban specifics, or the role of the informal urban sector, which requires specific attention. This approach echoes that proposed by NEPAD's Rural Futures programme, which promotes a multisectoral and place-based rural development for Africa's transformation (NEPAD, 2010; Proctor, 2013; ARDF, 2013). [57]

5.2.1 Support knowledge creation and strategy design

Section 3 reviewed the various alternatives for SSA's development being discussed in the policy debate today, and their limitations, and highlighted the necessity for re-engagement with development strategies that provide the means to identify tailored priorities. The first step for drafting appropriate strategies is to reinvest in knowledge creation because general socio-economic information is deficient. Improved data are necessary for understanding the dynamics of evolving economies, the increasing mobility of people and to appreciate the effective potential of countries and regions in terms of natural resources, particularly land availability and land access, and other assets (e.g., local skills, cultural heritage). Such an approach, focusing on taping underutilized potential – by identifying specific local resources – instead of implementing compensatory policy measures, is central to the new regional development paradigm (OECD, 2009).[58]

Re-engaging with development strategies implies reinvesting in processes, at both the national and subnational level, because consultation is a requirement of secure ownership – incorporating the critical factor of shared vision and commitment – and participation is a determinant of an effective place-based approach. Youth and their organizations are critical stakeholders in these processes (Vargas-Lundius and Suttie, 2014) and policy-makers should engage in a new type of affirmative action in order to consolidate the participation of young women and men in the policy process.

Such a re-engagement takes time, requires adequate planning and a significant effort in capacity building to manage information systems, conduct prospective studies, analyse results, select priorities and monitor progress (AfDB et al., 2015). A cornerstone is the implementation of sound regional diagnoses, facilitating the identification of constraints on local development, particularly lack of infrastructure and services.

However, the deteriorated knowledge base and the weakness of national and regional statistics in most African countries cannot justify inaction. It is possible to engage in foresight thinking even with limited data and to discuss possible futures and alternative pathways for economic and social progress (Sourisseau et al., 2016).

[57] The New Partnership for Africa's Development's (NEPAD) Rural Futures programme focuses on economic diversification in rural areas, including small towns, and on enhanced environmental sustainability. It bridges the experiences and lessons of the other major African Union and NEPAD-led programmes: the CAADP and the Programme for Infrastructure Development in Africa (PIDA).

[58] Compensatory measures, such as subsidies for lagging regions, are unsustainable over time when financial resources are limited.

The commitment of policy-makers and strong political leadership are critical factors because debating plausible scenarios and their consequences necessarily entails an assessment of values and depends on the state of democracy in any given country.

When discussing possible futures for rural areas, several scenarios of rural transformation result in differentiated alternatives. For instance, depending on the type of agricultural development on the one hand (between agro-industrial systems linked to global markets of standardized products and family farming systems linked to domestic markets of diversified products), and on the political commitment to rural development on the other hand (between abandonment of rural areas and their revitalization), different futures emerge. They could consist of either nucleus development with rural ghettos and high levels of inequality or a rural continuum of economic activities based on the multifunctionality of the rural space utilizing a more inclusive and sustainable process of development (Bourgeois, 2015).[59] These options apply to more than the future of rural areas, they are also critical for the social, territorial and political cohesion of a nation.

5.2.2 Support family farming and the diversification of rural incomes

Agricultural development is key because the majority of the workforce remains in the agricultural sector and because increasing outputs can facilitate labour-intensive downstream activities in the transformation of products. Increasing farmers' income is also the essential first step in boosting rural demand and fostering rural diversification, because new demand fosters investment in new activities (see section 3). As such, agriculture has a critical role to play in accelerating rural and regional development.

From that perspective and with regard to the demography, the weakness of employment alternatives and SSA's large share of youth employment in agriculture (ILO, 2015b), governments should give priority to family farms (box 2). Instead of favouring large-scale agriculture, corporate investments would be more profitably focused on segments of the value chain that lack capital (such as input supply, marketing and transformation). This policy option would unleash the huge potential of smallholder agriculture to increase production on the one side, and help to develop new jobs in processing and marketing, on the other side.

However, this option of supporting family agriculture must deal with the growing disinterest in farming among youth, which is related to the decent work deficit (ILO, 2005) and the widespread negative perceptions of agricultural activities (box 4). Only when agriculture is perceived to be profitable and to offer decent prospects will youth be encouraged to engage fully in farming activities. [60]

[59] Bourgeois proposes seven plausible scenarios named: rural stations, rural niches, farming cities, urban and peri-urban farming, rural ghettos, rural poles and rural continuums.

[60] For example, in Senegal, youth are abandoning agriculture in the declining region of groundnut production and prefer to emigrate, while in the Senegal river delta a booming agricultural sector is generating strong interest in farming activities (Hathié et al., 2015).

Box 4.
The paradox of the growing disinterest in farming activities among youth

The paradox of disinterest in farming activities among youth is explained by many factors relating to the dwindling opportunity space for youth (Leavy and Smith, 2010), which results in a confrontation between their aspirations and the reality of the agrarian context, and the rural economy and society as a whole. For rural youth, the realization of their dream of a "good life" clearly lies, most of the time, away from the countryside. Furthermore, the disconnection of formal schooling from rural realities and rural needs contributes to the downgrading of rural culture – generating a negative perception, which is often transmitted by the media and in politics.

Consequently, it is not surprising that rural youth rarely consider farming to be a "best job" or even a "good job" when one takes into account the very low returns provided by agriculture and the harsh conditions of work with hand tools. As such, agriculture is probably one of the most difficult ways to make a living and, above all, it does not offer a desirable social status. Recognizing agriculture as a viable employment option is even more challenging when economic and social restrictions related to access to productive resources are taken into account (Cissé et al., 2015).

The difficulty of achieving economic and social emancipation from their elders, and the weight of obligations to, and control from, the community are sharp constraints on youth – even though these obligations may also provide some security in terms of family or village solidarity.

Access to land is a core issue, governed by rules of inheritance. This difficulty is exacerbated by new pressures on land arising from land grabs and the growing interest of city dwellers, and tensions are increased when population density limits farm sizes and reduces their economic viability. Access to a fair share of returns is another serious concern due to the importance of unpaid labour in family farming: most often young people are family workers and, as such, are only paid in kind (housing and meals) (see Hathie et al., 2015 for recent related surveys in Senegal). All these limitations are exacerbated for young women who, in general, have no prospect of land access due to rules of inheritance, and who know that they will mainly have to work for their husbands (Tacoli and Mabala, 2010).

Consequently, this inclusive option based on family farming requires strong policy support (HLPE, 2013; Bosc, 2015; Sourisseau et al., 2014). Indeed, lessons from past agricultural transformations are very clear about the importance of public investments and conducive market and institutional environments (Chang, 2009; Tsasok, 2011).

Several areas of intervention need to be taken into account. The first refers to the imperative improvement of farmers' incomes. Among the priority areas for action are:

(i) reducing risks (the major obstacle to farmers' investment and diversification) through more productive and more efficient farming systems (using the full potential of ecological processes), promoting a better market environment (particularly in terms of avoiding price distortions through market regulation – ILO, 2005), the consolidation of land rights, an adequate provision of public goods in health, education and infrastructure (especially roads and irrigation),[61] and the implementation of social protection (particularly healthcare, which is a major issue in rural areas);

(ii) promoting farmers' organizations, which represent a powerful mechanism (as exemplified by the trajectory of agriculture in many OECD countries) for increasing farmers' bargaining power to offset the limitations of small size and production capacity, and to capture economies of scale in sourcing inputs,

[61] In the Sahel and in the savannah areas, farmers' knowledge of local agroecological conditions facilitates the adaptation of farming practices to the variability of water resources. With growing population densities, securing access to water is one of the most effective actions for risk reduction and for the improvement of productivity. The most effective answer is not necessarily large-scale infrastructure. Soft and small-scale irrigation can be very efficient with considerably lower investment and management costs.

marketing outputs and transforming products (Mercoiret and Perret, 2003; Bijman et al., 2016); and

(iii) progressively implementing payments for the adoption of environment-friendly practices as a way to simultaneously deal with changing climate and environmental conditions, diversify activities and production (e.g. agroforestry products) and enhance farmers' revenues – an option which should more easily be promoted in the aftermath of the COP21 and the Paris agreement on climate.

The second area for action refers to the rights and status of family farm members and the need to develop a legal framework for family farming.[62] With the progressive closing of the land frontier, the opportunity for creating new holdings is rapidly decreasing, resulting in a requirement for facilitation of the intergenerational transfer of assets. The status of family workers (young men and women, spouses, members of dependent households) needs also to be recognized and protected in terms of minimum revenues and rights.

Given that perspective, the third area of action concerns the adoption of an integrated policy framework facilitating the promotion of decent work for family workers and for wage workers, with or without a formal labour contract. There is a long record attesting to the critical importance of decent work in unleashing the potential for rural development in general (De Luca et al., 2011) and improving working conditions is particularly important in countering youth's negative perceptions of agriculture. Following ILO's rural employment and decent work programme, attempts to establish better working conditions and environment will benefit from the progressive development of labour regulation and the implementation of decent work policies. This includes the enforcement of an agricultural or rural minimum wage, facilitation of skills acquisition, entrepreneurship and enterprise support, raising awareness of youth's voice, taking into consideration the arduous nature of agricultural labour,[63] making improvements to occupational safety and health and the progressive adoption of social security coverage.

The fourth area of intervention concerns the improvement of rural life through the development of infrastructure, equipment and services. When compared to other regions of the world, rural Africa has very low levels of access to electricity, water and sanitation, as well as social and cultural services (OECD, 2016). Better living conditions would reduce the gap between rural and urban living in terms of basic needs and directly contribute to improving perceptions of rural life.

Last, but not least, the fifth area for action refers to the status of agriculture and rural life in politics, in the media, in schools and in society as a whole. Both the sector and the countryside as a whole are often downgraded and a critical and necessary first step will be to re-establish a positive status. Such an approach relies more on ideology than on specific means and requires a strong commitment from politicians and governments, which have to disseminate positive messages and project a vision that enhances the rural side of a nation (Losch, 2014).

Beyond the development of agriculture and its requirements, the diversification of rural incomes will be facilitated by progressively growing farm incomes, the supply of goods and new services related to the local demand and by rising agricultural production. The development of agro-food businesses represents a significant opportunity for youth

[62] Several countries, such as Mali and Senegal, engaged in this type of process with the adoption of specific laws by their parliaments. However, the translation of this legal framework into practice through effective policy measures remains challenging.
[63] Facilitating access to mechanization is a possible answer. However, the development of motorization has to be carefully managed, with a necessary balance between improving labour productivity, reducing the arduous nature of labour and maintaining jobs (ILO, 2005; Levard and Dumazert, 2014). Providing access to sets of tools, animal traction and light motorization should be the preferred course of action in contexts of large rural labour supply.

employment and for local development, due to powerful growth linkages to the rest of the economy (World Bank, 2013b; Koira, 2014). The growing food demand in Africa is a major avenue for agro-processing, which can easily be developed using small and medium-sized entities (SMEs) and with intermediate technology (Mercandalli, 2015b). This option requires less capital, is more labour intensive and facilitates the proliferation of units in rural boroughs and small towns, offering employment and entrepreneurial opportunities, local value added and new incomes. Agro-processing SMEs can also facilitate the resolution of post-harvest problems, which are a significant issue in SSA resulting in a loss of revenue for farmers.[64]

In addition, agro-industrial enterprises can provide inputs and services to the farm sector, stimulate market-induced innovation through farmers' participation in value chains and networks, and motivate other enterprises in the production of goods and services (Yumkella et al., 2011). They can be effective contributors to the local economy, the diversification of which will open new opportunity spaces for youth with more diversified and attractive jobs.

5.2.3 Strengthen rural–urban linkages and promote territorial policies

This diversification of the rural economy related to agricultural growth is fully embedded within the strengthening of linkages between rural boroughs, small towns and, beyond, regional cities. Historically, these linkages were forged as a result of a growing rural demand for goods and services related to increasing farm incomes, which generated new productive activities that naturally concentrated in small towns so as to benefit from economies of scale. The process was particularly critical for structural change and it represents a strong argument for avoiding monosectoral policy-making, over-segmentation and stove-piping – a recurring problem of development policies. Agriculture must be reconnected to rural development, and rural development to a comprehensive framework of integrated multisectoral and territorial development.

However, in recent decades, this scenario of growing economic linkages has changed, particularly in Africa (UNRISD, 2010): urbanization around the developing world has increasingly been characterized by rapid "metropolization" in and around large cities, which concentrates economic activity even further. This pattern has been exacerbated in SSA where the "toothcombs" structure inherited from the colonial history was deeply influential in shaping the spatial organization of every African country. Each colonial territory built a port, which was often the main town, and a railhead, with a transportation infrastructure oriented perpendicularly to the cost of shipping out local commodities (hence the reference to toothcombs). Independent states perpetuated this spatial arrangement, which resulted in territorial inequalities (Alvergne, 2008) and a marked asymmetry within the urban system, with the capital having more than one-fifth of the national population[65] and most often benefitting from the major public investments (notably because of its sensitivity to political unrest). This situation explains the weakness of urban functions at the bottom of urban systems.

Over the past decades, improving transportation and information networks have given rise to migration directly from rural areas to metropolitan areas. In many cases, migrants completely bypass the smaller towns in which rural–urban and on-farm/off-farm linkages could be strengthened. However, even when migrants do stay in small and medium-sized cities – which developed rapidly in many regions of the continent (SWAC-OECD, 2013) – they create an informal urbanization that takes place without adequate public goods and

[64] Product losses due to the lack of storage facilities are common in rural Africa. They are difficult to estimate, particularly for roots and tubers, but post-harvest grain loss is generally agreed to be between 10 and 20 per cent of total output. In the 2000s, in Eastern and Southern Africa, the estimated value of losses was $2 billion, to be compared to $9 billion of cereal imports in SSA in 2008 (World Bank, 2008b).

[65] In SSA, the capital city, or the major economic centre, quite often holds two-thirds of the combined urban population. The gap in size between the two most populated cities is high, with a primacy index (the ratio between the two first cities) above 10 in seven SSA countries and above 5 in 22 countries (AfDB et al., 2015).

services. This constrains sustainable urban development, prevents the formation of strong urban–rural linkages and explains the low returns to rural diversification, particularly the self-employment activities and household enterprises that cannot benefit from a conducive environment.

Therefore, strengthening the intermediate level of territorial development by promoting the economic vitality of small towns and small cities – the so-called "missing middle" (Christiaensen and Todo, 2014) – seems to be an important step for fostering rural transformation in the context of globalization, which tends to favour long-distance over short-distance networks (UNCTAD, 2015). Interventions in this area can offer win-win solutions that not only create better local market opportunities, facilitate access to services, strengthen communities and contribute to the weaving together of a region's economic and social fabric, but also reduce the burdens of mega-urbanization.

As such, reinvesting in a territorial approach is a way to facilitate the adaptation of public policies to the diversity of local situations (Barral et al., 2014). It is also a way of identifying functional territories – spatial units whose boundaries (often different from administrative limits) are defined by existing social and economic relations – resulting in specific institutions and cohesion (AfDB et al., 2015). Adopting a local perspective and connecting small towns and regional cities to their surrounding rural areas can contribute to reducing the stark contrast between urban and rural conditions. It can create a strong basis for a more sustainable rural non-farm economy – helping rural households to move onto the right side of the inverted U (see section 4.1) – and for the development and progressive upgrading of the informal sector, in which a large part of the African workforce is engaged. It can facilitate the stocktaking of specific territorial resources (e.g. natural and cultural landscapes) resulting in new activities and new employment opportunities for youth (e.g. agro-tourism). It can also contribute to food security through the involvement of local governments (Cistulli et al., 2014), the consolidation of a "foodshed" approach and a "relocalization" of agrifood relations in answer to the downward spiral of the global food system (Van der Ploeg, 2009).

Concertation and participation have a critical role to play in this process and it gives a specific role to local governments, which need support in order to engage more effectively in the management of structural change. Their knowledge of local needs and potential facilitates the development of local solutions involving the private sector (with possible public–private partnerships) and civil society organizations. In that context, youth can be a driving force and their voice must be heard. Because they are mobile, they have a greater experience in moving between the two sides of the blurring urban–rural divide; they are keen on ICTs and other innovations; and they have a great potential for connecting the multifaceted dimensions of African territories.

5.2.4 The way forward

The continent's increasingly youthful population is a challenge for Africa's future and a central factor in the resolution of the "African equation". It also represents a great opportunity, whose potential can be harnessed to deal with the challenges of SSA's structural transformation. The road ahead will clearly be difficult because the continent is entering "unchartered territory" (AfDB et al., 2015), where economic and social progress for all has to be achieved in a context of natural resource depletion, climate change and unbridled international competition.

Because the replication of past transformation pathways is impossible, African civil societies, governments, entrepreneurs and youth will have to invent a new development model. This requires anticipation and foresight thinking, the improvement and rehabilitation of the knowledge base, increased dialogue between stakeholders, necessary capacity building and the definition of a strategy with prioritized areas of action to mobilize and articulate the different levels of government.

Due to their low level of industrialization, the importance of their rural population and the low productivity of agricultural systems, SSA countries are in a unique position to leapfrog the environmentally damaging processes that occurred elsewhere and to invent and engage in a new pathway based on an inclusive and green development process addressing the needs of sustainable cities and rural areas.

Such a shift will require vision and political leadership. The identification of viable options for economic and social change and green development will need to put employment and labour management at centre stage. It implies a significant evolution of the research agenda where the discussion of possible production systems (agriculture and transformation of products) and options for natural resource management has to go beyond productivity and must include the imperative of sustainability and significant decent employment for youth (Box 5).

Box 5.
Towards a new research agenda on agricultural systems

There is substantial evidence and growing recognition of the importance of agriculture for poverty alleviation, rural development and rural diversification, and in terms of its capacity to absorb the growing rural labour force of several developing regions, particularly sub-Saharan Africa.

However, research on agricultural systems and production techniques tends to be disconnected from these global issues. It primarily focuses on agronomic optimums, increasing agricultural output, natural resource management and, progressively, on sustainable practices, without the necessary connection to the economic and social dimensions of local or national development. Little is known about the labour content and returns to labour investment of different technical systems – a situation that prevents the identification of adapted technical options responding to economic and social needs, notably decent employment.

Therefore, there is a critical interest in developing a specific research agenda, which would focus on measuring the labour content of every type of technique for every type of crop or animal production (labour input per task). This new research investment would provide results in terms of labour demand and remuneration of labour (based on the output value) and offer a significant knowledge base for the selection of adapted policy options and the type of production and production techniques, supported by specific information, technical advice and incentives.

References

ACET (African Center for Economic Transformation). 2014. *Growth with depth*, African Transformation Report (Accra, Ghana and Washington, DC).

AfDB. 2012. *Green Growth: Perspectives for Africa and the AFDB in the 21st Century*, Briefing Notes for AfDB's Long Term Strategy, No. 8.

AfDB (African Development Bank); OECD (Organisation for Economic Co-operation and Development); UNDP (United Nations Development Programme); UNECA (United Nations Economic Commission for Africa). 2012. African Economic Outlook 2012: *Promoting youth employment* (Paris, OECD).

AfDB; OECD; UNDP. 2013. *African Economic Outlook 2013: Structural transformation and natural resources* (Paris, OECD).

AfDB; OECD; UNDP. 2014. *African Economic Outlook 2014: Global value chains and Africa's industrialisation* (Paris, OECD).

AfDB; OECD; UNDP. 2015. *African Economic Outlook 2015: Regional development and spatial inclusion* (Paris, OECD).

Affholder, F.; Poeydebat, C.; Corbeels, M.; Scopel, E.; Tittonell, P. 2013. "The yield gap of major food crops in family agriculture in the tropics: Assessment and analysis through field surveys and modelling", *Field Crop Research*, 143: 106–118.

Africa Progress Panel. 2013. *Equity in extractives: Stewarding Africa's natural resources for all*, Africa Progress Report 2013 (Geneva).

African Union. 2006. *African Youth Charter*, 7th ordinary session (Banjul, the Gambia).

Agergaard, J.; Fold, N.; Gough, K. 2010. *Rural–urban dynamics: Livelihoods, mobility and markets in African and Asian frontiers* (Oxford, Routledge).

Ali, S.; Dadush, U. 2010. "Is the African renaissance for real?", Carnegie Endowment for International Peace, *International Economic Bulletin*, September 30.

Alobo Loison, S. 2015. "Rural livelihood diversification in sub-Saharan Africa: A literature review", in *Journal of Development Studies*, Vol. 51, No. 9, pp. 1125–38.

Althoff, C.; Anseeuw, W.; Giger, M. 2015. "Dynamics and implementation patterns of large-scale land acquisitions: Evidence from the Land Matrix Global Observatory", *Land and Poverty conference 2015* (Washington, DC: World Bank).

Altieri, M.A. 1995. *Agroecology: The science of sustainable agriculture* (Boulder: Westview Press).

Altieri, M.A.; Funes-Monzote, F.R.; Petersen, P. 2012. "Agroecologically efficient agricultural systems for smallholder farmers: Contributions to food sovereignty", *Agronomy for Sustainable Development*, 32: 1–13.

Alvergne, C. 2008. *Le défi des territoires: comment dépasser les disparités spatiales en Afrique de l'Ouest et du Centre* (Paris: Karthala).

Amsden, A. 2001. *The rise of "the rest": Challenges to the West from late-industrializing economies* (New York, Oxford University Press).

Ancey, G.; Pescay, M. 1983. *La planification à base régionale en Côte d'Ivoire, le plan 1981–1985 et ses antécédents* (Paris, Ministère des relations extérieures – Coopération et développement).

Andersson Djurfeld, A. 2014. "Multi-local livelihoods and food security in rural Africa", in *Journal of International Development*, Vol. 27, No. 4, pp. 528–545.

Anseeuw, W.; Alden Wily, L.; Cotula, L.; Taylor, M. 2012a. *Land rights and the rush for land: Findings of the Global Commercial Pressures on Land Research Project* (Rome, International Land Coalition).

Anseeuw, W.; Boche, M.; Breu, T.; Giger, M.; Lay, J.; Messerli, P.; Nolte, K. 2012b. *Transnational land deals for agriculture in the Global South. Analytical Report based on the Land Matrix Database* (Bern-Montpellier-Hamburg: CDE-CIRAD-GIGA).

Antoine, P.; Razafindrakoto, M.; Roubaud, F. 2001. "Contraints de rester jeunes ? Évolution de l'insertion dans trois capitales africaines: Dakar, Yaoundé, Antananarivo", in *Autrepart*, Vol.18, pp.17–36.

Arbache, J.; Page, J. 2009. "How fragile is Africa's recent growth?", in *Journal of African Economies*, Vol. 19, No. 1, pp. 1–24.

ARDF (Africa Rural Development Forum). 2013. *Cotonou Declaration on Rural Futures*, 2–4 May 2013, Cotonou, Benin.

Arrighi, G.; Zhang, L. 2011. "Beyond the Washington consensus: A new bandung?", in J. Shefner and P. Fernandez-Kelly (eds): *Globalization and beyond: New examinations of global power and its alternatives* (University Park, Penn State University Press).

Autor, D. 2014. *Polanyi's paradox and the shape of employment growth*, NBER working paper No. 20485 (Cambridge, MA, NBER).

Barral, S.; Piraux, M.; Sourisseau, J.-M. ; Valette, E. 2014. "Contributing to territorial dynamics", in Sourisseau J.-M. (ed.): *Family farming and the Worlds to come* (Dordrecht: Springer).

Beaujeu, R.; Kolie, R.; Sempere, J.F.; Uhder, C. 2011. *Transition démographique et emploi en Afrique subsaharienne: Comment remettre l'emploi au cœur des politiques de développement* (Paris, AFD).

Bélières, J.F.; Bonnal, P.; Bosc, P.M.; Losch, B.; Marzin, J.; Sourisseau, J.M. 2014. *Family farming around the world: Definitions, contributions and public policies*, Collection A Savoir (Paris, AFD).

Benoit-Cattin, M.; Dorin, B. 2012. "Disponible alimentaire et productivité agricole en Afrique subsaharienne: Une approche dynamique comparative (1961–2003)", in *Cahiers Agricultures*, Vol. 21, No. 5, pp. 337–47.

Berdegué, J.; Proctor, F. 2014. *Inclusive rural–urban linkages*, Working Paper Series No. 123, Territorial Cohesion for Development Program (Santiago, RIMISP).

Betcherman, G.; Godfrey, M.; Puerto, S.; Rother, F.; Stavreska, A. 2007. *A review of interventions to support young workers: Findings of the Youth Employment Inventory*, Social Protection Discussion Paper No. 0715 (Washington, DC, World Bank).

Bhattacharyya, S.; Collier, P. 2014. “Public capital in resource rich economies: Is there a curse?”, in *Oxford Economic Papers*, Vol. 66, No. 1, pp. 1–24.

Bhorat, H.; Naidoo, K. 2013. *Africa’s jobs challenge*, DPRU Policy Brief PB 13/30 (Cape Town, University of Cape Town).

Bijman, J.; Muradian, R.; Schuurman, J. 2016. *Cooperatives, economic democratization and rural development* (Cheltenham, Elgar Publishing).

Bosc, P.-M. 2015. “Investments in ‘smallholder’ family farming. Towards a New Deal”, in *Perspective*, No. 32 (Montpellier, CIRAD).

Bosc, P.-M.; Sourisseau, J.-M.; Bonnal, P.; Gasselin, P.; Valette, E.; Bélières, J.-F. (eds). 2015. *Diversité des agricultures familiales: Exister, se transformer, devenir* (Versailles, Quae).

Bourgeois, R. 2015. “What future for rural areas? Seven Plausible Rural Transformations”, in *Development Journal*, Vol. 58, No. 2: in press.

Boyer, F.; Guénard, C. 2014. “Sous employés, chômeurs ou entrepreneurs: Les jeunes face à l’emploi”, in *Autrepart*, Vol. 71, pp. 3–32.

Brooks, K.; Zorya, S.; Gautam, A.; Goyal, A. 2013. *Agriculture as a sector of opportunity for young people in Africa*, Policy Research Working Paper No. 6473 (Washington, DC, World Bank).

Bryceson, D.F. 1999. *African rural labour, income diversification and livelihood approaches: A long-term development perspective* (Leiden, Afrika-Studiecentrum).

Bryceson, D.F. 2002. “The scramble in Africa: Reorienting rural livelihoods”, in *World Development*, Vol. 30, No. 5, pp. 725–39.

Cadot, O., De Melo, J.; Plane, P.; Wagner, L.; Woldemichael, M.T. 2015. *Industrialisation et transformation structurelle: l’Afrique sub-saharienne peut-elle se développer sans usines?* Working Paper No. 143 (Clermont-Ferrand: Ferdi).

Campagne, P.; Pecqueur, B. 2014. *Le développement territorial: Une réponse émergente à la mondialisation* (Paris, Fondation Charles Léopold Mayer).

Carletto, G.; Covarrubias, K.; Davis, B.; Krausova, M.; Stamoulis, K.; Winters, P.; Zezza, A. 2007. “Rural income generating activities in developing countries: Reassessing the evidence”, in *Journal of Agricultural and Development Economics*, Vol. 4, No. 1, pp. 146–93.

Carmignani, F.; Mandeville, T. 2014. “Never been industrialized: A tale of African structural change”, in *Structural Change and Economic Dynamics*, Vol. 31, pp. 124–37.

Chamberlin, J.; Jayne, T.S.; Headey, D. 2014. “Scarcity amidst abundance? Reassessing the potential for cropland expansion in Africa”, in *Food Policy*, Vol. 48/0, pp. 51–65.

Chang, H.J. 2002. *Kicking away the ladder: Development strategy in historical perspective* (London, Anthem Press).

Chang, H.-J. 2009. *Rethinking public policy in agriculture: Lessons from distant and recent history*, Policy Assistance Series, No. 7 (Rome: FAO).

Charmes, J. 2011. “Caractérisation du secteur informel en Afrique subsaharienne”, in R. Beaujeu, M. Kolie, J.-F. Sempere and C. Uhder (eds): *Transition démographique et*

emploi en Afrique subsaharienne: Comment remettre l'emploi au cœur des politiques de développement (Paris, AFD), pp. 27–33.

Chauveau, J.-P. 2005. "Introduction thématique: Les jeunes ruraux à la croisée des chemins", in *Afrique contemporaine*, Vol. 214, pp. 15–35.

Cheong, D.; Jansen, M.; Peters, R. (eds). 2013. *Shared harvests: Agriculture trade and employment* (Geneva, ILO and UNCTAD).

Christiaensen, L.; Todo, Y. 2014. "Poverty reduction during the rural–urban transformation: The role of the missing middle", in *World Development*, Vol. 63(C), pp. 43–58.

Cissé, M.-L.; Fusillier, C.; Hathie, I.; Paisley, C.; Sarfo, A.; Goura Soulé, B. 2015. "L'agriculture, une réponse au 'chômage' des jeunes ruraux?'', in *Grain de sel*, Vol. 71, pp. 28–30.

Cistulli, V.; Rodríguez-Pose, A.; Escobar, G.; Marta, S.; Schejtman, A. 2014. "Addressing food security and nutrition by means of a territorial approach", in *Food Security*, Vol. 6, No. 6, pp. 879–94.

Collier, P. 2008. "The politics of hunger: How illusion and greed fan the food crisis", in *Foreign Affairs*, Vol. 87, No. 6, pp. 67–79.

Collier, P. 2009. "Africa's organic peasantry: Beyond romanticism", in *Harvard International Review*, Vol. 32, No. 2, pp. 62–65.

Cooper, F. 2002. *Africa since 1940: The past of the present* (Cambridge, Cambridge University Press).

Cortes, G.; Faret, L. 2009. *Les circulations transnationales: Lire les turbulences migratoires contemporaines* (Paris, Armand Colin).

Cotula, L.; Vermeulen, S.; Leonard, R.; Keeley, J. 2009. *Land grab or development opportunity? Agricultural investment and international land deals in Africa* (London and Rome, IIED, FAO and IFAD).

Davis, B.; Winters, P.; Carletto, G.; Covarrubias, K.; Quinones, E.; Zezza, A.; Stamoulis, K.; Bonomi, G.; DiGiuseppe, S. 2007. "Rural income generating activities: A cross country comparison", Background Paper for the *World Development Report 2008* (Washington, DC, World Bank and FAO).

De Brauw, A.; Mueller, V.; Lee, H.L. 2014. "The role of rural–urban migration in the structural transformation of sub-Saharan Africa", in *World Development*, Vol. 63(C), pp. 33–42.

Delgado, C.; Hopkins, J.; Kelly, V. 1998. *Agricultural growth linkages in Sub-Saharan Africa*, Research Report No. 107 (Washington, DC, IFPRI).

De Luca, L.; Marian, F.; Crunel, E.; Smith, L.O. 2011. *Unleashing the potential for rural development through decent wor: Building on the ILO Rural Work Legacy 1970–2010* (Geneva, ILO).

Dercon, S.; Gollin, D. 2014. *Agriculture in African development: A review of theories and strategies*, CSAE Working Paper (WPS/2014-22) (Oxford: Center for the Study of African Economies).

De Schutter, O. 2010. Report submitted by the UN Special Rapporteur on the Right to Food, A/HRC/16/49, United Nations.

Devarajan, S. 2013. “Africa’s statistical tragedy”, in *Review of Income and Wealth*, Vol. 59(S1), pp. S9–S15.

Devarajan, S.; Fengler, W. 2013. “Africa’s economic boom: Why the pessimists and the optimists are both right”, in *Foreign Affairs*, Vol. 93, No. 3, May.

Diao, X.; Hazell, P.; Resnick, D.; Thurlow, J. 2007. “The role of agriculture in development: Implications for Sub-Saharan Africa”, Research Report No. 153 (Washington, DC, IFPRI).

Dinh, H.T.; Palmade, V.; Chandra, V.; Cossar, F. 2012. *Light manufacturing in Africa: Targeted policies to enhance private investment and create jobs*, Africa Development Forum Series (Washington, World Bank and AFD).

Djurfeldt, G.; Holmén, H.; Jirström, M.; Larsson, R. (eds). 2005. *The African food crisis: Lessons from the Asian green revolution* (Oxfordshire, CABI Publishing).

Dorin, B. 2013. “The untapped potential of food production”, in B. Losch , G. Magrin and J. Imbernon (eds): 2013.

Dorin, B. 2014. *Dynamiques agricoles en Afrique subsaharienne: Une perspective à 2050 des défis de la transformation structurelle*, report for the Fondation pour l’Agriculture et la Ruralité dans le Monde (FARM) (New Delhi, CSH).

Dorin, B.; Hourcade, J.-C.; Benoit-Cattin, M. 2013. *A world without farmers? The Lewis path revisited*, Working Paper No. 47-2013 (Nogent-sur-Marne, CIRED).

Dorosh, P.; Thurlow, J. 2014. “Can cities or towns drive African development? Economy-wide analysis for Ethiopia and Uganda”, in *World Development*, Vol. 63(C), pp. 113–23.

EAAF-ROPPA-PROFAC. 2013. *Family farmers for sustainable food systems: A synthesis of reports by African farmers' regional networks on models of food production, consumption and markets* (EuropAfrica Consortium).

Elder, S.; de Haas, H.; Principi, M.; Schewel, K. 2015. *Youth and rural development: Evidence from 25 school-to-work transition surveys*, Work4Youth Publication Series No. 29 (Geneva, ILO).

Ellis, S. 2000. *Rural livelihoods and diversity in developing countries* (Oxford, Oxford University Press).

Erceau, J.; Le Bissonnais, A. 2014. *Les maisons familiales rurales dans le monde: Une contribution originale à la formation et à l'insertion des jeunes* (Paris: L’Harmattan).

Evans, P. 1995. *Embedded autonomy: States and industrial transformation* (Princeton, NJ, Princeton University Press).

Faivre Dupaigre, B. 2007. *APE et dynamiques des flux régionaux: Une application aux pays de la CEDEAO*, Coll. “Documents de travail” (Paris: Agence française de développement).

FAO (Food and Agriculture Organization). 2007. *The roles of agriculture in development: The policy implications and guidance*, Research Programme Summary Report (Rome), 27pp.

Feintrenie, L.; Roda, J.-M.; Rival, A. 2016. “Industrial investments in agriculture in Central Africa: Establishing the conditions for sustainability and equity”, in *Perspective*, Vol. 37 (Montpellier: CIRAD).

Filmer, D.; Fox, L. 2014. *Youth employment in Sub-Saharan Africa*, Africa Development Forum Series (Washington, DC, World Bank and AFD).

Fioramonti, L. 2013. *Gross domestic problem: The politics behind the world's most powerful number* (London, Zed Books).

Fox, L.; Sohnesen, T.P. 2012. *Household enterprises in Sub-Saharan Africa: Why they matter for growth, jobs, and livelihoods*, Policy Research Working Paper No. 6184 (Washington, DC, World Bank).

Fox, L.; Haines, C.; Huerta Muñoz, J.; Thomas, A. 2013. "Africa's got work to do: Employment prospects in the new century", IMF Working Paper WP/13/201 (Washington, DC, IMF).

Francis, E. 2002. "Gender, migration and multiple livelihoods: Cases from Eastern and Southern Africa", in *Journal of Development Studies*, Vol. 38, No. 5, pp. 167–90.

Fuglie, K.O.; Rada, N.E. 2013. *Resources, policies, and agricultural productivity in Sub-Saharan Africa*, Economic Research Report No. 145 (Washington, DC, U.S. Department of Agriculture).

Gabas, J.-J.; Losch, B. 2008. "Fabrication and illusions of emergence", in Ch. Jaffrelot (ed.): *Emerging states: The wellspring of a new world order* (London, C. Hurst and Co), pp. 13–27.

Gamu, J.; Le Billon, P.; Spiegel, S. 2015. "Extractive industries and poverty: A review of recent findings and linkage mechanisms", in *Extractive Industries and Society*, Vol. 2, No. 1, pp. 162–176.

Ghani, E.; O'Connell, S.D. 2014. *Can service be a growth escalator in low income countries?*, Policy Research Working Paper No. 6971 (Washington, DC, World Bank).

Giraud, J.N. 1996. *L'inégalité du monde: Économie du monde contemporain* (Paris, Gallimard).

Gliessman, S.R.; Engles, E.W. 2014. *Agroecology: The Ecology of Sustainable Food Systems* (Boca Raton, FL, CRC Press).

Golaz, V.; Nowik, L.; Sajoux, M. 2012. "Africa, a young but ageing continent", in *Population & Societies*, No. 491.

Gore, C. 2003. *Globalization, the international poverty trap and chronic poverty in the least developed countries*, Chronic Poverty Research Centre (CPRC) Working Paper No. 30 (Geneva, UNCTAD).

Grataloup, C. 2007. *Géohistoire de la mondialisation: Le temps long du monde* (Paris, Armand Colin).

Guengant, J.-P.; May, J. 2013. "African demography", in *Global Journal of Emerging Market Economies*, Vol. 5, No. 3, pp. 215–67.

Guetat-Bernard, H. 1998 "Nouvelles articulations villes-campagnes: Pluri-appartenance et mobilité spatiale et professionnelle des ruraux du delta du Nil", in *L'Espace géographique*, No. 3, pp. 253–64.

Haggblade, S.; Hazell, P.; Reardon, T. (eds). 2007. *Transforming the rural nonfarm economy: Opportunities and threats in the developing world* (Michigan, International Food Policy Research Institute, Johns Hopkins University Press).

Hathie, I.; Wade, I.; Ba, S.; Niang, M.; Niang, A.; Kesso Sow, M.; Ndione, Y.C.; Ba, C.O. 2015. *Emploi des jeunes et migration en Afrique de l'Ouest (EJMAO): Rapport final Sénégal* (Dakar, IPAR).

Hatton, T.J.; Williamson, G.W. 2005. *Global migration and the world economy: Two centuries of policy and performance* (Cambridge, MA, MIT Press).

Headey, D.; Bezemer, D.; Hazell, P. 2010. "Agricultural employment trends in Asia and Africa: Too fast or too slow?", in *World Bank Research Observer*, Vol. 25, No. 1, pp. 57–89.

HLPE (High Level Panel of Experts). 2013. *Investing in smallholder agriculture for food security*, Report by the High Level Panel of Experts on Food Security and Nutrition (Rome: CFS-HLPE).

ILO (International Labour Organization). 2003. *Guidelines concerning a statistical definition of informal employment*, Report of the Conference, 17th International Conference of Labour Statisticians, Geneva, 24 November–3 December 2003.

ILO. 2005. "Why agriculture still matters", in *World Employment Report 2004–05: Employment, productivity and poverty reduction* (Geneva, ILO).

ILO. 2012. *The youth employment crisis: A call for action* (Geneva, ILO).

ILO. 2014. *Global Employment Trends 2014: Risks of a jobless recovery* (Geneva, ILO).

ILO. 2015a. *World Employment Social Outlook: The changing nature of jobs* (Geneva, ILO).

ILO. 2015b. *Global Employment Trends for Youth 2015: Scaling up investments in decent jobs for youth* (Geneva, ILO).

Jayne, T.S.; Chamberlin, J.; Headey, D. 2014. "Land pressures, the evolution of farming systems, and development strategies in Africa: A synthesis", in *Food Policy*, Vol. 48/0, pp. 1–17.

Jayne, T.S.; Chapoto, A.; Sitko, N.; Nkonde, C.; Muyanga, M.; Chamberlin, J. 2014. "Is the scramble for land in Africa foreclosing a smallholder agricultural expansion strategy?", in *Journal of International Affairs*, Vol. 67, No. 2, pp. 35–53.

Jerven, M. 2013. *Poor numbers: How we are misled by African development statistics and what to do about it* (Ithaca, NY, Cornell University Press).

Johnston, B.F.; Mellor, J. 1961. "The role of agriculture in economic development", in *American Economic Review*, Vol. 51, No. 4, pp. 566–93.

Johnston, B.F.; Kilby, P. 1975. *Agriculture and structural transformation: Economic strategies in late-developing countries* (Oxford, Oxford University Press).

Jones, P.; Thornton, P. 2009. "Croppers to livestock keepers: Livelihood transitions to 2050 in Africa due to climate change", in *Environmental Science and Policy*, Vol. 12, pp. 427–437.

Jütting, J.; de Laiglesia, J.R. 2009. *Is informal normal? Towards more and better jobs in developing countries* (Paris, OECD).

Karsenty, A. 2015. "Major food companies, PES and combating deforestation: Using PES to achieve 'zero deforestation' agriculture", *Perspective*, No. 36 (Montpellier, CIRAD).

Koira, A.K. 2014. *Agribusiness in sub-Saharan Africa: Pathways for developing innovative programs for youth and the rural poor*, Working Paper, The MasterCard Foundation.

Koohafkan, P.; Altieri, M.A.; Gimenez, E.H. 2011. "Green agriculture: Foundations for biodiverse, resilient and productive agricultural systems", in *International Journal of Agricultural Sustainaility*, Vol. 10, No. 1, pp. 61–75.

Kloppenburg Jr, J.; Hendrickson, J.; Stevenson, G.W. 1996. "Coming in to the foodshed", in *Agriculture and Human Values*, Vol. 13, No. 3, pp. 33–42.

Lampkin, N.H.; Pearce, B.D.; Leake, A.R.; Creissen, H.; Gerrard, C.L.; Girling, R.; Lloyd, S.; Padel, S.; Smith, J.; Smith, L.G.; Vieweger, A.; Wolfe, M.S. 2015. *The role of agroecology in sustainable intensification*, Report for the Land Use Policy Group, Organic Research Centre, Elm Farm and Game & Wildlife Conservation Trust.

Land Policy Initiative. 2013. *Large-scale land based investments in Africa: Synthesis report*, African Union-AfDB-UNECA.

Leavy, J.; Smith, S. 2010. *Future farmers: Youth aspirations, expectations and life choices*, Discussion Paper No. 013 (Future Agricultures Consortium).

Levard, L.; Dumazert, P. 2014. "Quels changements techniques pour développer l'emploi dans l'agriculture ?", in Vo. Sauvat (ed.): *Les exclusions paysannes: Quels impacts sur le marché international du travail?* (Paris: AFD).

Losch, B. 2004. "Debating the multifunctionality of agriculture: From trade negotiations to development policies by the South", in *Journal of Agrarian Change*, Vol. 4, No. 3, pp. 336–60.

Losch, B. 2012. "Crisis prevention in sub-Saharan Africa – Agriculture: The key to the employment challenge", in *Perspective*, No. 19 (Montpellier, CIRAD).

Losch, B. 2013a. "L'Afrique des villes a encore besoin de l'Afrique des champs pour répondre aux défis du continent", in *Déméter 2014* (Paris, Club Déméter), pp. 95–114.

Losch, B. 2013b. *Structural change and employment in Africa: State of play and development challenges*, Africa Rural Development Forum, Cotonou, 2–4 May 2013 (CIRAD–NEPAD).

Losch, B. 2014. *African youth in agriculture and rural development*, Background Paper for the FAO Regional Conference for Africa (ARC).

Losch, B. 2015a. "The elusive quest for inclusive growth in sub-Saharan Africa: Regional challenges and policy options", in L. Haddad, H. Kato and N. Meisel (eds): *Growth is dead, long live growth: The quality of economic growth and why it matters* (Tokyo, JICA Press), pp. 217-242.

Losch, B. 2015b. "Family farming: At the core of the world's agricultural history", in J.-M. Sourisseau (ed.): *Family farming and the worlds to come* (Dordrecht, Springer), pp. 13–36.

Losch, B. 2015c. "Can we still only think 'rural'? Bridging the rural–urban divide as a necessary step for rural transformation in a globalized world", in *Development Journal*, Vol. 58, No. 2: in press.

Losch, B.; Fréguin-Gresh, S. 2013. "Quelles agricultures face aux défis des transitions africaines? Le small-scale versus large-scale en débat", in *Cahiers Agricultures*, Vol. 22, No. 1, pp. 10–15.

Losch, B.; Magrin, G. 2013. “Towards a new rural–urban model: Decompartmentalizing territories and policies”, in B. Losch, G. Magrin and J. Imbernon (eds): 2013.

Losch, B.; Fréguin-Gresh, S.; White, E. 2012. *Structural transformation and rural change revisited: Challenges for late developing countries in a globalizing world*, Africa Development Forum Series (Washington, DC, World Bank and AFD).

Losch, B.; Magrin, G.; Imbernon, J. (eds). 2013. *A new emerging rural world: An overview of rural change in Africa*, Atlas for NEPAD’s Rural Futures Programme (Montpellier, CIRAD).

Ma Mung, E. 1999. “La dispersion comme ressource”, in *Cultures et Conflits*, No. 33–34, pp. 89–103.

Magrin, G. 2013a. “Urbanization in Africa: Growth, plateau and uncertainty”, in B. Losch, G. Magrin and J. Imbernon (eds): 2013.

Magrin, G. 2013b. *Voyage en Afrique rentière: Une lecture géographique des trajectoires du développement* (Paris, Publications de la Sorbonne).

Mazoyer, M. 2001. *Protecting small farmers and the rural poor in the context of globalization* (Rome, FAO).

McKinsey Global Institute. 2010. *Lions on the move: The progress and potential of African economies* (Washington, DC, McKinsey and Co.).

McMillan, M.; Rodrik, D.; Verduzco-Gallo, I. 2014. “Globalization, structural change and productivity growth, with an update on Africa”, in *World Development*, Vol. 63(C), pp. 11–32.

Mellor, J.W. 2014. “High rural population density Africa: What are the growth requirements and who participates?”, in *Food Policy*, Vol. 48/0, pp. 66–75.

Mercandalli, S. 2015a. “Migrations et recompositions des stratégies socioéconomiques des familles rurales au Mozambique: Une lecture institutionnelle des circulations contemporaines”, in *Mondes en développement*, Vol. 172, pp. 33–52.

Mercandalli, S. 2015b. “L’agroalimentaire: Une opportunité pour l’emploi des jeunes?”, in *Grain de sel*, Vol. 71, pp. 31–32.

Mercandalli, S.; Anseeuw, W. 2014. “Migration et stratégies des familles mozambicaines: Réflexions pour une politique intégrée de développement rural”, in *Revue Tiers Monde*, No. 220.

Mercoiret, M.-R.; Perret, S. (eds). 2003. *Supporting small-scale farmers and rural organisations: Learning from experiences in West Africa. A handbook for development operators and local managers* (Pretoria, Protea Book House, CIRAD).

Moustier, P.; Fall, A.S. 2004. “Les dynamiques de l’agriculture urbaine: Caractérisation et évaluation”, in B. Smith Olanrewaju, P. Moustier, L. Mougeot and A. Fall (eds): *Développement durable de l'agriculture urbaine en Afrique francophone: Enjeux, concepts et méthodes* (Montpellier: CIRAD).

Mueller, B.; Chan, M.-K. 2015. *Wage labor, agriculture-based economies, and pathways out of poverty: Taking stock of the evidence* (Washington, DC, USAID).

Myrdal, G. 1968. *Asian drama: An inquiry into the poverty of nations* (New York, Pantheon).

New Partnership for Africa's Development (NEPAD). 2010. *The Rural Futures Program: Rural transformation across the African continent* (Midrand, SA, NEPAD Planning and Coordination Agency).

OECD (Organisation for Economic Co-operation and Development). 2009. *Regions matter: Economic recovery, innovation and sustainable growth* (Paris, OECD Publishing).

OECD. 2016. *A new rural development paradigm for the 21st century: A toolkit for developing countries*, Development Centre Studies (Paris: OECD).

Omilola, B. 2014. *Inclusive green growth in Africa: Rationale, challenges and opportunities*, UNDP Policy Brief (Pretoria, SA, UNDP).

Orsini, F.; Kahane, R.; Nono-Womdim, R.; Gianquinto, G. 2013. "Urban agriculture in the developing world: A review", in *Agronomy for Sustainable Development*, Vol. 33, No. 4, pp. 695–720.

Oya, C. 2010. *Rural Inequality, wage employment and labour market formation in Africa: Historical and micro-level evidence*, Working Paper No. 97, Policy Integration Department (Geneva, ILO).

PAI; AFIDEP. 2012. *Population, climate change, and sustainable development in Africa*, Policy and Issue Brief (Washington, DC and Nairobi: Population Action International and the African Institute for Development Policy).

PEP. 2012. *Building an inclusive green economy for all: Opportunities and challenges for overcoming poverty and inequality*, Poverty & Environment Partnership, A Joint Agency Paper.

Peters, C.J.; Bills, N.L.; Wilkins, J.L.; Fick, G.W. 2009. "Foodshed analysis and its relevance to sustainability", in *Renewable Agriculture and Food Systems*, Vol. 24, No. 01, pp. 1–7.

Pimentel, D.; Hepperly, P.; Hanson, J.; Douds, D.; Seidel, R. 2005. "Environmental, energetic and economic comparisons of organic and conventional farming systems", in *BioScience*, Vol. 55, No. 7, pp. 573–582.

Pomeranz, K. 2000. *The great divergence* (Princeton, NJ, Princeton University Press).

Pretty, J.; Toulmin, C.; Williams, S. 2011. "Sustainable intensification in African agriculture", in *International Journal of Agricultural Sustainability*, Vol. 9, No. 1, pp. 5–24.

Proctor, F. 2013. *A framework to inform the NEPAD-led Rural Futures initiative* (Midrand, NEPAD Planning and Coordination Agency).

Proctor, F.; Lucchesi, V. 2012. *Small-scale farming and youth in an era of rapid rural change*, Knowledge Programme (The Hague, Hivos; London, IIED).

Quesnel, A.; del Rey, A. 2005. "La construcción de una economía familiar de archipiélago: Movilidad y recomposición de las relaciones intergeneracionales en el medio rural mexicano", in *Estudios Demográficos y Urbanos*, Vol. 20, No. 2, pp. 197–228.

Raison, J.-P. 1975. "L'Atlas des structures agraires au sud du Sahara [note critique]", in *Études rurales*, Vol. 59, No. 1, pp. 97–102.

Ranis, G.; Stewart, F. 1999. "V-goods and the role of the urban informal sector in development", in *Economic Development and Cultural Change*, Vol. 47, No. 2, pp. 259–88.

Reardon, T. 1997. “Using evidence of household income diversification to inform study of the rural nonfarm labor market in Africa”, in *World Development*, Vol. 5, No. 25, pp. 735–747.

Reardon, T.; Taylor, J.E.; Stamoulis, K.; Lanjouw, P.; Balisacan, A. 2000. “Effects of non-farm employment on rural income inequality in developing countries: An investment perspective”, in *Journal of Agricultural Economics*, Vol. 51, No. 2, pp. 266–88.

Revenue Watch Institute. 2013. *The 2013 Resource Governance Index: A measure of transparency and accountability in the oil, gas and mining sector* (New York).

Rist, G. 2003. *The history of development: From Western origins to global faith* (London, Zed Books).

Rodrik, D. 2013. “The past, present, and future of economic growth”, Working Paper 1 (Geneva, Global Citizen Foundation).

Rodrik, D. 2014. *An African growth miracle?*, Richard H. Sabot Lectures (Washington, DC, Center for Global Development).

Rostow, W.W. 1960. *The stages of economic growth: A non-communist manifesto* (Cambridge, Cambridge University Press).

Rother, F. 2006. *Interventions to support young workers in Sub-Saharan Africa*, Regional Report for the Youth Employment Inventory (Washington, DC, World Bank).

RSA (Republic of South Africa). 2011. *New growth path: Accord 4 – Green economy accord* (Pretoria, Economic Development Department).

Schoneveld, G.C. 2014. “The geographic and sectoral patterns of large-scale farmland investments in sub-Saharan Africa”, in *Food Policy*, Vol. 48, pp. 34–50.

Sourisseau, J.-M. (ed.). 2015. *Family farming and the worlds to come* (Dordrecht, Springer).

Sourisseau, J.-M.; Bélières, J.-F.; Bonnal, P.; Bosc, P.-M.; Losch, B.; Marzin, J. 2014. “Public policy for family farming: Definition for better support”, in *Perspective*, No. 29 (Montpellier, CIRAD).

Sourisseau, J.-M.; Kahane, R.; Fabre, P.; Hubert, B. (eds.). 2015. *Proceedings of the International Encounters on Family Farming and Research*, Montpellier, 1–3 June 2014 (Montpellier, Agropolis International).

Sourisseau, J.-M.; Bélières, J.-F.; Bourgeois, R.; Losch, B.; Bougnoux, N.; Soumare, M.; Rasofolo, P.; Ramanitriniony, H.K.; Guengant, J.-P. 2016. *Les régions de Ségou et du Vakinankaratra face au défi démographique*, rapport de synthèse de l’étude AFD-CIRAD *Prospective territoriale sur les dynamiques démographiques et le développement rural en Afrique subsaharienne et à Madagascar* (Bamako, Antanarivo, Montpellier, IER, ISS, CIRAD, AFD).

Stiegler, B. 2015. *La société automatique. 1. L’avenir du travail* (Paris, Fayard).

Stiglitz, J.E. 1998. *Towards a new paradigm for development: Strategies, policies and process*, 9th Raul Prebisch Lecture, UNCTAD, Geneva, 19 Oct.

Sumberg, J.; Anyidoho, N.A.; Leavy, J.; Dolf, J.H.; Lintelo, T.; Wellard, K. 2012. “The young people and agriculture ‘problem’ in Africa”, in *IDS Bulletin*, Vol. 43, No. 6.

SWAC (Sahel and West Africa Club); OECD. 2013. *Settlement, market and food security*, West African Studies (Paris, OECD Publishing).

SWAC-PDM (Partnership for Municipal Development). 2001. *Écoloc, gérer l'économie localement en Afrique: évaluation et prospective* (Paris, Sahel and West Africa Club and Partnership for Municipal Development).

Swilling, M. 2013. "Economic crisis, long waves and the sustainability transition: An African perspective", in *Environmental Innovation and Societal Transitions*, Vol. 6(0), pp. 96–115.

Tacoli, C. 2002. *Changing rural–urban interactions in sub-Saharan Africa and their impact on livelihoods: A summary*, Working Paper Series on Rural–Urban Interactions and Livelihood Strategies No. 37 (London, IIED).

Tacoli, C.; Mabala, R. 2010. *Exploring mobility and migration in the context of rural–urban linkages: Why gender and generation matter*, Gender, Poverty and Migration Series (London, IIED).

Tacoli, C.; Vorley, B. 2015. "Reframing the debate on urbanisation, rural transformation and food security", in *Briefing* (London, IIED).

Teulings, C.; Baldwin, R. (eds). 2014. *Secular stagnation: Facts, causes and cures* (London, CPER Press).

Timmer, C.P. 2009. *A world without agriculture: The structural transformation in historical perspective* (Washington, DC, The American Enterprise Institute Press).

Timmer, C.P.; Akkus, S. 2008. *The structural transformation as a pathway out of poverty: Analytics, empirics and politics*, Working Paper No. 150 (Washington, DC, Center for Global Development).

Tittonell, P.; Giller, K.E. 2013. "When yield gaps are poverty traps: The paradigm of ecological intensification in African smallholder agriculture", in *Field Crops Research*, Vol. 143, No. 1, pp. 76–90.

Tripp, R. 2005. *Self-sufficient agriculture: Labour and knowledge in small-scale farming* (London, Earthscan).

Tsakok, I. 2011. *Success in agricultural transformation: What it means and what makes it happen* (New York, Cambridge University Press).

UNCTAD (United Nations Conference on Trade and Development). 2015. *Transforming rural economies*, The Least Developed Countries Report (New York and Geneva, United Nations).

UNESC (United Nations Economic and Social Council); UNECA; UNEP (United Nations Environment Programme). 2011. "A green economy in the context of sustainable development and poverty eradication: What are the implications for Africa?", in *Papers of the Africa Regional Preparatory Conference for the United Nations Conference on Sustainable Development "Rio+20"* (Addis Ababa, United Nations).

UNIDO (United Nations Industrial Development Organization). 2008. *Breaking in and moving up: New industrial challenges for the bottom billion and the middle-income countries*, Industrial Development Report 2009 (Vienna).

UNRISD (United Nations Research Institute for Social Development). 2010. *Combating poverty and inequality: Structural change, social policy and politics* (Geneva).

Van der Geest, K. 2010. *Rural youth employment in developing countries: A global view* (Rome, FAO).

Van der Ploeg, J.D. 2009. *The new peasantries: Struggles for autonomy and sustainability in an era of empire and globalization* (London and Sterling, VA, Earthscan).

Vargas-Lundius, R.; Suttie, D. 2014. *Youth: Investing in young rural people for sustainable and equitable development* (Rome, IFAD).

Vendryes, T. 2014. "Transitions démographique et économique en République populaire de Chine: Héritage socialiste, population et croissance", in V. Sauvat (ed.): *Les exclusions paysannes: Quels impacts sur le marché international du travail?* (Paris, AFD).

World Bank. 2007. *World Development Report 2008: Agriculture for development* (Washington, DC, World Bank).

World Bank. 2008a. *World Development Report 2009: Reshaping economic geography* (Washington, DC, World Bank).

World Bank. 2008b. *Regional trade in food staples: Prospects for stimulating agricultural growth and moderating short-term food security crises in eastern and southern Africa* (Washington, DC, World Bank).

World Bank. 2009a. *Youth and employment in Africa: The potential, the problem, the promise*, Africa Development Indicators 2008/09 (Washington, DC, World Bank).

World Bank. 2009b. *Awakening Africa's sleeping giant: Prospects for commercial agriculture in the Guinea Savannah Zone and beyond* (Washington, DC, FAO and World Bank).

World Bank. 2012. *Inclusive green growth: The pathway sustainable to development* (Washington, DC, World Bank).

World Bank. 2013a. *Opportunities and challenges for climate-smart agriculture in Africa*, Policy Brief (Washington, DC, World Bank).

World Bank. 2013b. *Growing Africa: Unlocking the potential of agribusiness* (Washington, DC, World Bank).

YEN (Youth Employment Network). 2010. *Benchmarks for youth employment: First benchmarking exercise of the lead country network 2010* (Geneva, ILO).

Young, A. 1999. "Is there really spare land? A critique of estimates of available cultivable land in developing countries", in *Environment, Development and Sustainability*, Vol. 1, pp. 3–18.

Yumkella, K.K.; Kormawa, P.M.; Torben, M.; Roepstorff, A.; Hawkins, A.M. 2011. *Agribusiness for Africa's prosperity* (Vienna, UNIDO).

Employment Working Papers

The Working Papers from 2008 are available at:

www.ilo.org/employment/Whatwedo/Publications/working-papers

Please scan the code

Employment Policy Department

For more information visit our website: http://www.ilo.org/employment

International Labour Office
Employment Policy Department
4, route des Morillons
CH-1211 Geneva 22

Email: employment@ilo.org

Employment Policy Department

For more information, visit our website
http://www.ilo.org/employment

International Labour Office
Employment Policy Department
Route des Morillons 4
CH-1211 Geneva 22

Email: employment@ilo.org

ISSN 1999-2939